

Instructions for setting up a trackspot camera system

Trackspot makes it possible to check at any time and at a glance how many visitors are in a certain area of your business or event location. This allows you to ensure that given visitor numbers are met without additional personnel costs. Even without such access restrictions Trackspot is the ideal solution to manage visitor flows in a customer-friendly way.

For Trackspot to function smoothly, careful setup of the various components is required. This document should help you to set up a working access control system for an area in a short time.

1 Setting up the Trackspot area (online)

In the first step you should create the area you want to monitor on Trackspot's website and set it up so that the "virtual" area corresponds to the real conditions. How this works exactly is explained below.

1.1 Create log-in/area

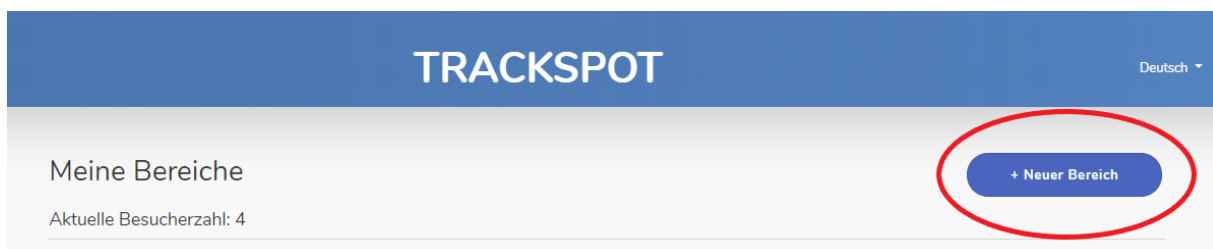


Figure 1-11: Button for creating new trackspot areas

Use any computer connected to the Internet to access the Trackspot website (<https://www.trackspot.de/>) and log in.

Now open the navigation menu by clicking on the three horizontal bars (so-called "hamburger menu") in the upper left corner of the screen. Select the menu item *My areas*. Another click on the *New Area* button opens the dialog that allows you to create a new area.

1.2 Basic settings

The first step in setting up a new section should be to give it a suitable name that makes it easy to identify. After that, individual opening hours can be set for each day of the week and it is also possible to automatically reset the count of visitors outside opening hours.

If the area to be created is a part of a larger area that should also be monitored with Trackspot, you can note this under *Environment* if the outer area has already been created. (Examples could be different wings or floors of a museum or even individual movie theaters).

Figure 1-2: Overview of properties for a new area

Once these basic properties of the new area have been defined, at least one access and one dashboard must be created for the area in order to establish the full functionality of the Trackspot system.

1.3 Create an account

In the menu item *Create new access* you define the way in which the access to the area to be created is controlled or measured. In most cases this will be a locally installed device that is able to transmit data to Trackspot via the Internet, such as a turnstile. It is also possible to use people counting cameras from different manufacturers.

1.3.1 Access: Beckerbillett

Trackspot is able to communicate with Beckerbillett entrance systems and use their data to accurately record visitor numbers. To use this functionality for your area, a Beckerbillett access must be set up. To do this, first click on *Beckerbillett-System* under *New Area*.

The dialog shown in the Figure 1-13 opens. After you have assigned a unique name for the new access, some information about your local TOP3 system is required:

Under *TOP3 Url* the local network address of your entrance facility or turnstile must be entered. The *TOP3 Key Code* of the device is also required - but you can also log in to the device with a user name and password, in which case this field will be filled in automatically.

The fields *TOP3 device number* and *TOP3 group name* are also important. The entries in these fields must exactly match the corresponding values of your local TOP3 installation.

Finally, a maximum number of visitors must be defined for the area. If you check the box *Automatic Entrance Control*, the turnstile can be locked automatically via Trackspot if this number is exceeded.

After selecting the correct *TOP3 access type* from the drop-down menu, the newly created Beckerbillett system access can be saved.

Zugang erstellen ⓘ

Name
Neuer Zugang

Beckerbillett System

TOP3 Url

TOP3 Key Code

TOP3 Benutzername

TOP3 Geräteummer

TOP3 Passwort

Verbindungstest

Anmelden

TOP3 Gruppenname

Automatische Eingangssteuerung

TOP3 Zugangstyp

Maximale Besucheranzahl
0

Push URL
https://www.trackspot.de/transit/1p9Qr4tLHmdZAbkYImZQbVavl3pcKkAs

Speichern

Abbrechen

Figure 1-134: Configuration menu for a Beckerbillett access

1.3.2 Access: XOVIS

If you have decided on this access control option, select the *Xovis People Counter* option under *Create New Access*.

First of all, a name that uniquely identifies the entrance should be assigned, such as "Main Entrance" or similar.

The other options depend on how the camera assigned to the access has been configured. When setting this up, a *crossing line* is defined - under *Forward* or *Backward* you define whether crossing this line in forward or backward direction should be counted as entry or exit from the monitored area.

Under *Crossing Line* the same name must be entered as the line has in the Xovis configuration program. This is only necessary if several counting lines were set up when the camera was set up (see section) - if no name is assigned, all lines will be counted. Accordingly, it is not absolutely necessary to enter a name if only one line has been configured.

For detailed information on setting up the People Counting Camera, please also refer to the corresponding section of this document on page 7 or to the official Xovis User Manual in section 3.2.

Zugang erstellen



Name
Haupteingang

Forward
Eintritt

Backward
Austritt

Crossing Line
Entrance

Push URL
<https://www.trackspot.de/api/xovis/pc2/events/c4bDsp1nSVGjVW2pBv7D7sEvhCmQFUK5>

Speichern Abbrechen

Figure 1-156: Setting options when configuring an XOVIS access

The user does not have to enter anything in the menu item *Push URL*. This URL must be entered when setting up the camera so that the camera sends your data to the correct area. For more information, please refer to the section on Camera Setup on page 10.

With a last click on *Save* you save the created access, which should now be visible in the area overview.

1.3.3 Access: Dilax

If you have a Dilax people counting camera instead of a Xovis sensor, it can also be integrated into the Trackspot system.

Zugang erstellen

Name
Neuer Zugang

Eintritt
In

Austritt
Out

Push URL
<https://www.trackspot.de/api/dilax/dlcp/events/cNU3uuD1qfRNj8uxJ4c2batiHjnFhXOa>

Speichern Abbrechen

Illustration 1-7: Setting options when creating a Dilax access

Creating an access that is monitored with a Dilax sensor works in a similar way to the procedure described in the previous section for an Xovis sensor. The only difference is that the fields *Forward* and *Backward* are called *In* and *Out* respectively. In addition, there is no need to configure a name for the counting line for a Dilax access.

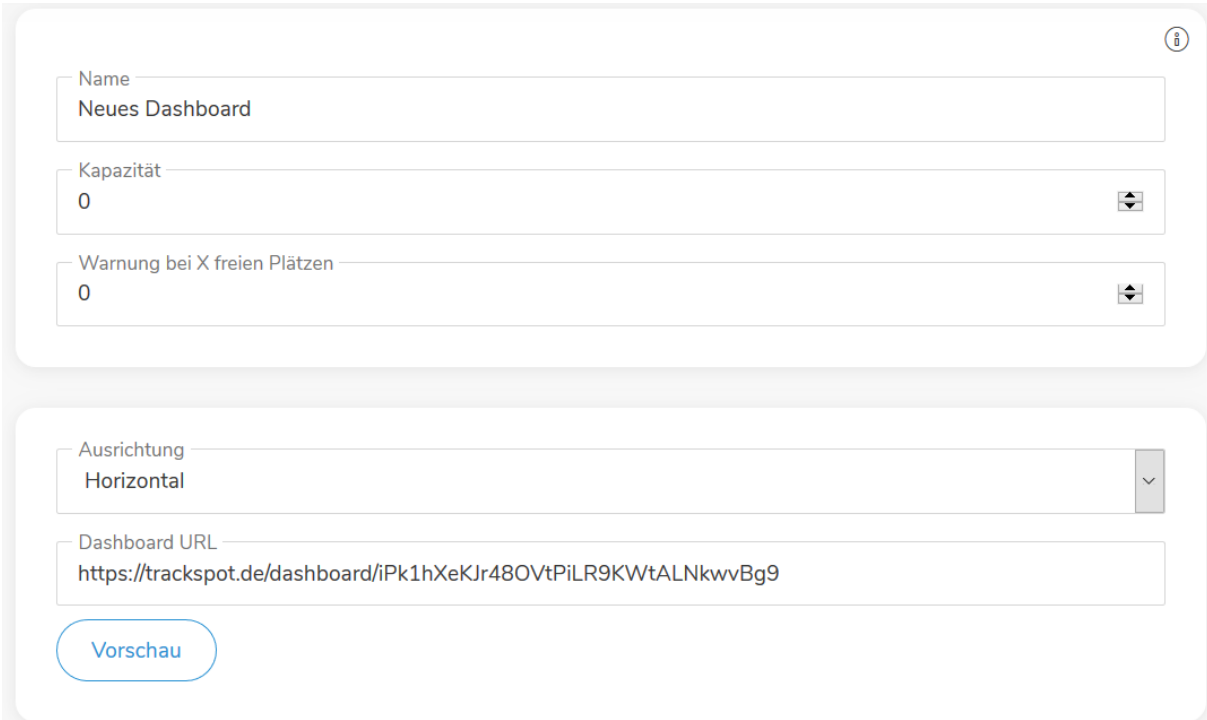
1.4 Creating a Dashboard

In the last step at least one so-called *dashboard* should be defined for the new area. A dashboard shows how many visitors or customers are currently in the monitored area. There are two variants for the realization of a dashboard: A simple *info monitor*, or the *Corona traffic light*.

1.4.1 Dashboard: Traffic light

The creation of a dashboard or traffic light should of course also start with the assignment of a unique name. Under *Capacity* you can see how many visitors may stay in the area. In the next field, you can specify at how much remaining capacity of the area a warning should be given - this is the value at which the traffic light switches to yellow. Under *Alignment* you can choose between horizontal and vertical alignment, depending on the type of device on which the dashboard is to be displayed.

Also important is the Dashboard URL, which is automatically generated just like the Push URL of the account. The dashboard is displayed on the selected device (e.g. a smart TV) by simply opening this Internet address with a browser. More detailed explanations on displaying the Corona traffic light can also be found in the relevant section on page 12.



The screenshot shows a configuration form for a new dashboard. It consists of two main sections. The first section contains three input fields: 'Name' with the value 'Neues Dashboard', 'Kapazität' with the value '0', and 'Warnung bei X freien Plätzen' with the value '0'. The second section contains a dropdown menu for 'Ausrichtung' set to 'Horizontal' and a text field for 'Dashboard URL' containing the URL 'https://trackspot.de/dashboard/iPk1hXeKJr48OVtPiLR9KWtALNkwwBg9'. At the bottom left of the form is a blue button labeled 'Vorschau'.

Figure 1-18: Configuration options for a new dashboard

Further down on the same page, it is possible to configure the various phases of your Corona traffic light with regard to its audiovisual content. To do so, first select the traffic light phase (green/red/yellow) for which you want to make settings.

Clicking on *+Video/Image* opens the dialog shown in the Illustration 1-19right. Here you can either select a video or image stored in the library for the traffic light phase, or upload any image material from your own stock.

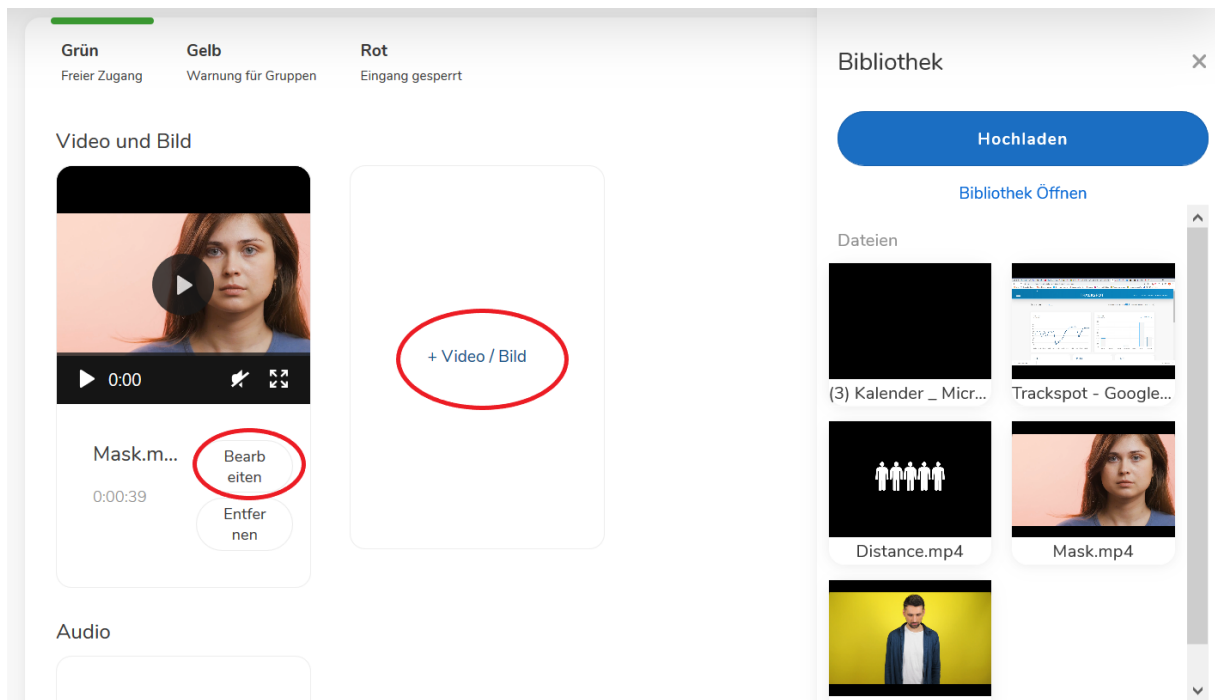


Illustration 1-1910: Dialog for configuration of the Corona traffic light

After a file has been uploaded, a click on the *Edit* menu item offers the possibility to make further settings for displaying audio or image files. For example, the display duration for the video can be set here. It is also possible to specify when the video is to be played on the dashboard by checking the appropriate box - *traffic light switching* refers to a change in the traffic light phase, while the *Entry* and *Exit* options mean that the file is displayed when a visitor enters or leaves the monitored area.

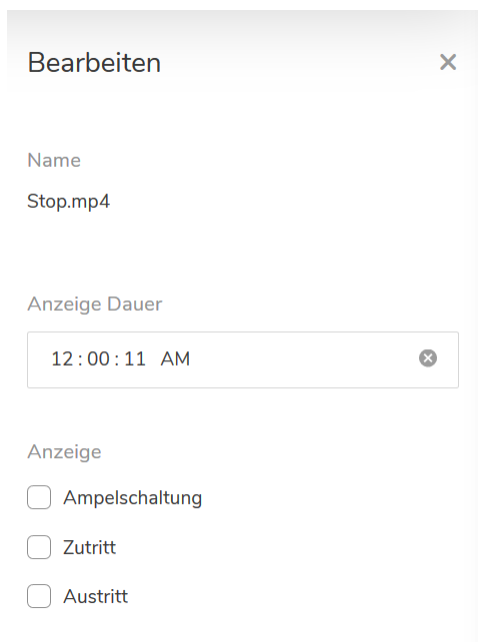


Illustration 1-111: Setting options for displaying video & image files

Below the Video Files menu is the dialog that allows you to add audio files to the Dashboard. This works in a similar way to setting up visual files - select an audio file from the library to match the traffic light phase, or upload an audio content yourself.

Finally, an information text can be configured for each traffic light phase. The use of the placeholder strings *%Capacity%*, *%Current%* and *%Remaining%* makes it possible to display the total capacity of the area, the current number of visitors and the current free capacity.

The creation of a dashboard is also completed by clicking *Save*. This also completes the creation of the area. To set up a working trackspot system, however, the people counting camera for the area must still be set up & connected.

1.4.2 Dashboard: Monitor

A *monitor-type* dashboard is designed to provide information at first glance about how many visitors are currently in the monitored area. It is created in the same way as a traffic light dashboard: Simply click on *Info Monitor* instead of *Corona Traffic Light*, assign a name and save your settings.

2 Setting up & connecting the Xovis camera

An essential component of the Trackspot system is the people counting camera. How this is configured to work together with the Trackspot software is explained in the following section.

2.1 Assembly & Installation: Basics & Requirements

Trackspot is designed, among other things, to be set up with a 3D sensor (camera) of the PC series from the manufacturer Xovis. Depending on the requirements for ceiling height & monitoring area, a model should be selected according to the information in the table below.

	Standard sensors		Sensors with extended coverage area						
	PC2 PC2R PC2S PC2R-0	PC3 PC3-0	PC2-UL PC2R-UL PC2S-UL PC2R-UL-0	PC2-L PC2R-L PC2S-L PC2R-L-0	PC3-L PC3-L-0	PC3-M1 PC3-M1-0	PC3-M2 PC3-M2-0	PC3-H PC3-H-0	PC3-UH PC3-UH-0
Installation height	2.20 m - 6.00 m	6.00 m - 14.00 m	2.20 m - 3.50 m	2.20 m - 6.00 m	6.00 m - 9.00 m	9.00 m - 12.00 m	11.00 m - 14.00 m	14.00 m - 16.00 m	16.00 m - 20.00 m

Figure 2-21: Overview of the Xovis-PC model series

The device must be connected to the local network using a shielded Category 5 network cable with RJ45 plug. It is strongly recommended by the manufacturer to set the switch port to auto-negotiation. The Ethernet port is located on the back of the device. Also make sure that plug and sensor are installed without any mechanical pressure.

The power supply of the camera is provided by Power-over-Ethernet (PoE, i.e. via the network cable). As specified in the IEEE standard 802.3af, the switch port must provide 15 watts of power at a voltage of 48 V. If necessary, a PoE adapter must be used here.

When mounting the camera, make sure that it is placed exactly vertically above the entrance of the area to be monitored. The coverage area then depends on the model and mounting height; exact specifications can also be found in the manufacturer's *Selection Guide*.

2.2 Setting up the camera in the network

Before the camera can be configured for people counting, it must be properly connected to the local network. If the network has a DHCP (*Dynamic Host Configuration Protocol*) server, it should automatically control the IP assignment for the camera.

Otherwise the sensor must be assigned a static IP, which requires a Windows PC connected to the same subnet. In both cases, the *Xovis Sensor Explorer* is a helpful software tool to make the necessary network settings.

2.2.1 Setup in DHCP environment

The tool is simply started by double-clicking on the file "XovisSensorExplorer.exe", an installation is not necessary.

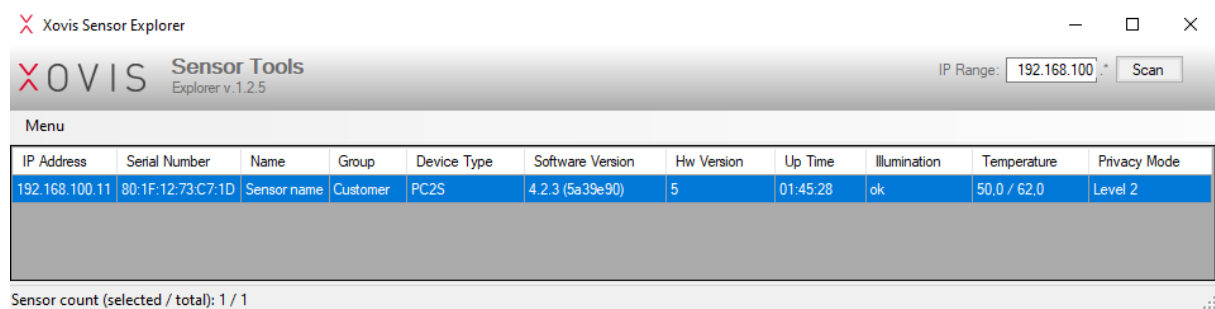


Figure 2-22: Main screen of the Xovis Sensor Explorer

By clicking on *Scan* in the upper right corner, the specified IP range of the local subnet is scanned for Xovis sensors. The first column of the result field contains the IP addresses of the found sensors. To access the web interface of the sensor and make all further settings, simply copy the respective IP address into the address line of a suitable browser.

2.2.2 Setup in Fix-IP environment

In a local network without DHCP the sensor should have the default IP address **192.168.1.168**. However, since the Sensor Explorer only shows properly configured devices, it may happen in a Fix-IP environment that connected sensors cannot be detected. In this case it is possible to locate the sensor by its serial number and assign a temporary IP. To do this, click on *Menu > Set Fix-IP* in the Sensor Explorer. Here you have to enter the serial number of the device (to be found on the sensor itself or on the packaging) and the desired network settings.

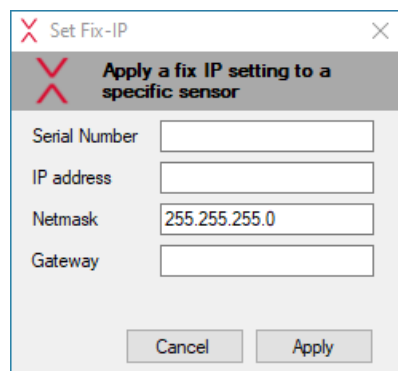


Illustration 2-23: Menu for IP assignment in the XSE

After a click on *Apply* and a short waiting time the sensor should now be found by the scan of the Sensor Explorer. However, since static IP addresses assigned in this way will be lost each time the system is rebooted, you should then use the camera's web interface to permanently set the IP address.

2.3 Configuration via setup wizard

Once the camera is connected to its network, the sensor's web interface can be used to perform further setup. Access to it is simply via an Internet browser on a PC connected to the same local network as the camera. Most commercially available browsers are supported; the use of Firefox, Chrome, Opera or Internet Explorer is recommended.



Login

Please log-in to use the application

Administrator

Password

Login

[Forgot your password?](#)

Figure 2-4: Log-in screen for the web interface of an Xovis sensor

To log in to the camera, enter the IP address of the camera in the address line of the browser. This depends on your local network configuration, of course. In a network without DHCP, the sensor's default IP address is **192.168.1.168**. The default password for logging on to the camera is "pass", but this should be changed during the initial setup.

As long as the camera is not yet configured, the *Setup Wizard* should open immediately after logging in to guide you through the initial configuration of the camera. Otherwise, it can also be opened by selecting the *Config* tab in the bar at the top of the screen and then clicking on the *Start setup wizard* button. The Setup Wizard will then guide you through the entire process of configuring and calibrating your camera. This process is also described in detail in the official Xovis User Manual in section 3.2.7.

Welcome to the setup wizard

Select your language:

Select the country of operation:

Timezone:

Units:

This wizard will guide you through all necessary steps to setup your sensor. Before starting with this wizard, it is required to have the sensor mounted in the scene it will operate.

Click 'Start' to begin with the wizard or 'Cancel' if you want to skip the wizard. The setup wizard can also be started at any later point in time by clicking 'Start setup wizard' in the 'Config' section.

[When operating this sensor you are accepting the end-user license agreement. Follow this link to display license terms.](#)

Help Xovis to improve our products by participating in the Xovis Product Improvement Program. No

[Find out more](#)

Figure 2-5: First step of the setup wizard for Xovis sensors

An important note: During configuration using the Setup Wizard, a date and time for the camera is also set. It is also possible to have the camera use an Internet server as a timer. **This option is highly recommended.** A correct system time is not only crucial for the evaluation of counting statistics, but also for the communication of the sensor with Trackspot's web platform.

During the execution of the set-up wizard, the camera perspective is also calibrated, the area to be monitored is drawn in, and crossing lines are set up. Detailed explanations can also be found in section 3.2.7 of the official manual. Some experience and practical tips on this important step are summarized at the end of this manual.

2.4 Establishing the connection of camera & trackspot area

If the camera is set up correctly and a corresponding trackspot area is available, only the connection for communication between these two system components needs to be established. This step is also performed in the camera's web interface.

Log in to the web interface as described in the previous section and navigate to the *Config* tab. At the bottom of the screen you should find the *Settings* submenu, select the tab called *Data Push*. Here you add a new connection (*Data Push Agent*) by selecting *Events* in the *Data Type* field. The settings for *Sensor Type*, *Interval* and *Protocol* can be kept.

The decisive entry must be made in the URL field. The *push URL* of the account you have created for your trackspot area will be copied into this field (see also Figure 1-15). A last click on *Add* saves the settings, the connection between Xovis camera and Trackspot area should be established.

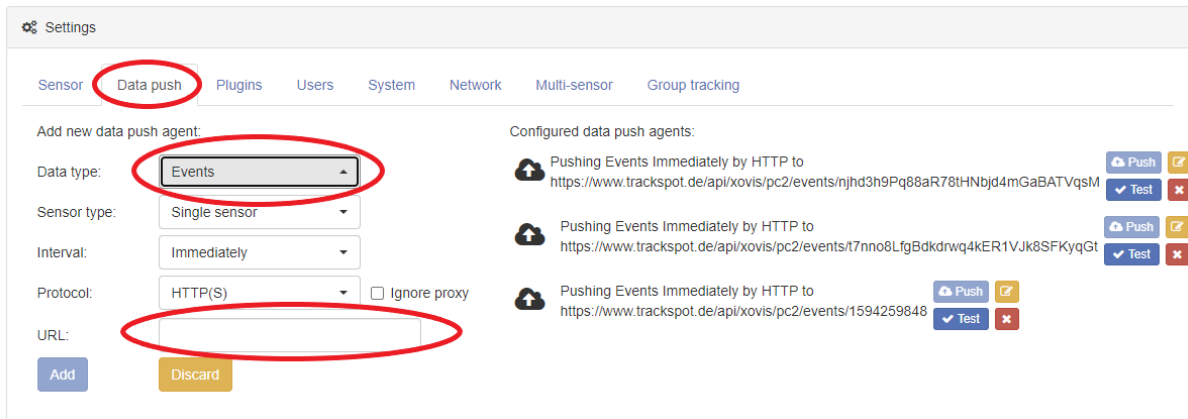


Figure 2-26: Field for entering the push URL in the Xovis web interface

Please note that for a smooth functioning of the trackspot system, **data traffic with trackspot.de must be allowed or enabled in your local infrastructure.**

Also the communication with the selected ntp/time server must be enabled. Whether pushing events to your trackspot area and sending ntp requests works properly can be checked in the web interface in the *Status* tab, see also the following figure

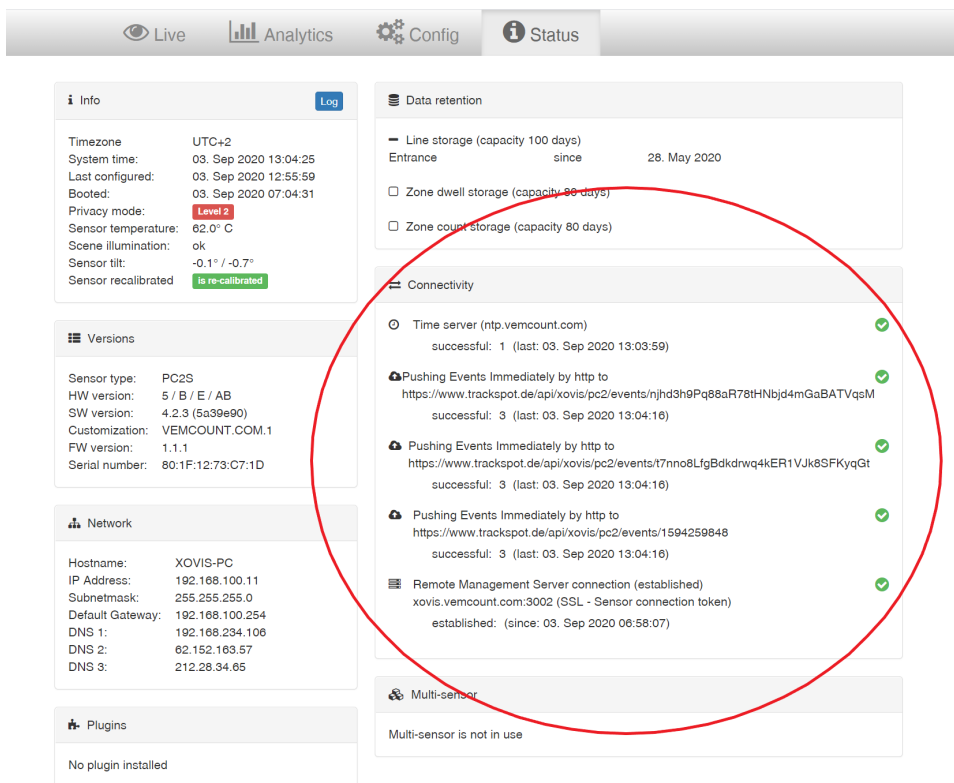


Figure 2-27: Status overview of the Xovis web interface

3 Setting up the visitor display/traffic light

After creating a trackspot area with all necessary properties, configuring the people counting camera and setting up a connection between the two components via a push URL, all requirements for the public display of your dashboards or corona lights are met.

3.1 Trackspot display requirements

As a terminal device for displaying your Trackspot Corona traffic light, for example, any smart TV is suitable. Other display devices can also be used, under two conditions:

- The device must be connected to the Internet
- An Internet browser is available on the device

3.2 Display of the Corona traffic lights

Simply place your selected device at the entrance of the area you want to control. Open the browser installed on the display device and log on to www.trackspot.de with your user ID.

Now you only need to navigate via *My Areas* to the area you have set up and click under *Dashboards* on the appropriate traffic light, which should now appear in full screen on the screen.

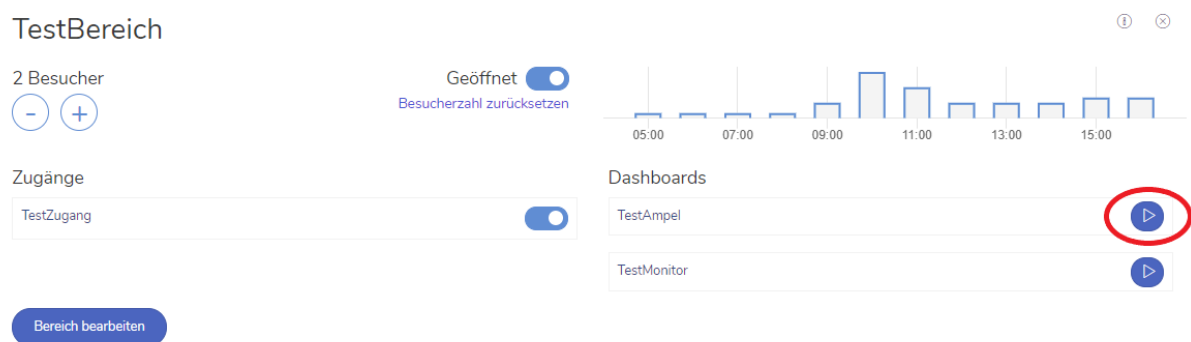


Illustration 3-31: Button to display the Corona traffic light in Trackspot

4 Further hints & experiences

While the previous sections explain the individual steps to set up a Trackspot system, this chapter provides you with information gained from experience on how to install the system in practice.

4.1 Experience and tips for camera mounting

A correct configuration of the recording area is crucial for the setup of the people counting camera. Theoretically, during the initial setup, you simply need to define a *line (crossing line)* that will be used to count visitors when it is crossed. In practice, however, various problems can arise due to the conditions at the site of operation, for example if waiting visitors remain in the recording area or building elements cause misinterpretations of the sensor. The configuration interface of the sensor usually offers enough possibilities to modify the recording area in order to achieve satisfactory results.

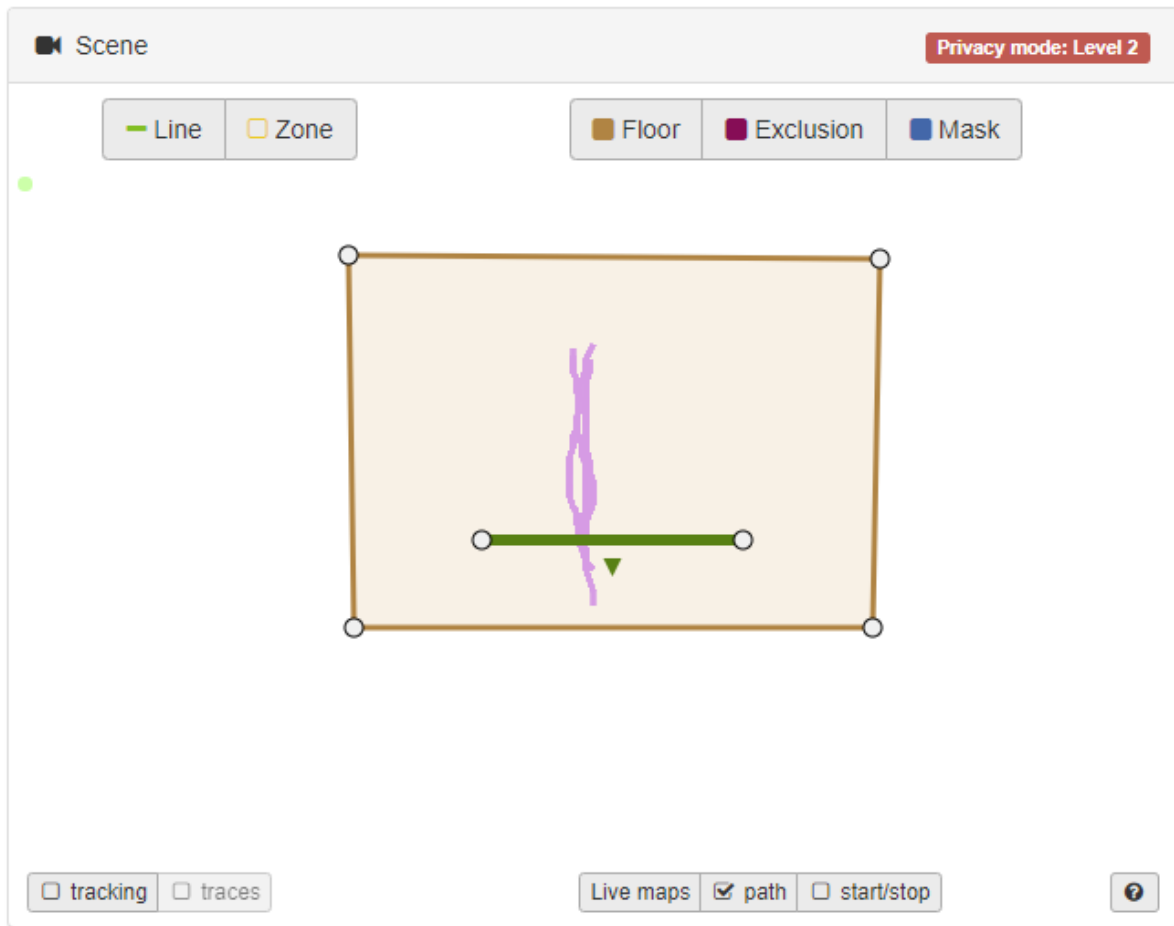


Figure 4-412: Live view of a Xovis sensor (with increased privacy level)

A very simple configuration is shown in the Figure 4-41, consisting only of a counting line and a floor zone. Monitoring zones of this type can be created during the initial setup with the *setup wizard*, and should work well in most cases. For more problematic situations, improvements can be made in the web interface under *Config*, as the following recommendations show.

In such cases, the configuration tool can be used to remove areas susceptible to interference from the image by drawing masks into the scene. Two different types of masks are available: *Exclusion masks* & *Taboo masks*.

If a person enters an area covered by an exclusion mask, the mask is immediately erased and is only noticed by the sensor again when the person leaves the masked area. Exclusion masks are marked with red-violet color in the configuration tool.

The image areas covered by blue taboo masks are completely excluded from the image processing of the sensor - you can imagine them as "black holes" so to speak. They can be very helpful to eliminate disturbing image influences by signs, monitors or strong illumination differences. More detailed explanations of the application and properties of the masking function can also be found in the Xovis User Manual in Section 4.2.

4.1.1 Finding a suitable place for the assembly

For the trackspot system to function properly, it is essential that the people counting camera is mounted in a suitable location. The following aspects are important:

- Both ceiling and floor of the area to be monitored should be horizontal surfaces - sloping ceilings, stairs or similar quickly lead to problems.

- The camera should be mounted on the ceiling, not on the walls or other surfaces
- The camera must be mounted at the correct height. The correct mounting height for each model can also be found in the table in section XX.
- If possible, mirrors or possibly reflecting surfaces such as glass doors or windows should not be included in the image section, since reflections of persons may be interpreted by the sensor as additional persons
- Doors protruding into the pick-up area can also be problematic
- Finally, it should be avoided to place the sensor in an area where visitors, customers or employees often stay for long periods or hardly move at all. This can easily lead to miscounts if visitors cross the counting lines several times. Of course, this also applies to areas where employees are positioned for longer periods of time.

4.1.2 Situation: waiting area

A possible cause of miscounts can be that visitors move back and forth on the counting line or stop on it, so that the same person may be counted several times. This situation often occurs when the sensor is installed at the entrance of a partial area, for example at an elevator or staircase - but generally any place where people tend or are forced to stay is susceptible.

Usually, in such situations, the only possibility is to draw and test several counting lines with different alignments/positions. An example of this is shown in the Figure 4-43.

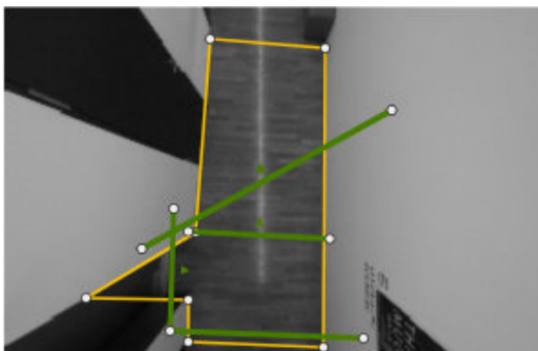


Figure 4-434: Example for test configuration with several counting lines

In the end, it was found that waiting people tend to stay in the lower right-hand section of the image. In this case, therefore, an oblique line worked best, the other lines should be deleted after the test was completed:



Figure 4-456: Final configuration with one counting line and masked door

4.1.3 Situation: Door

It should also be avoided, if possible, that the opening area of doors extends into the monitored area, as it can happen that an opening door is perceived as one or even two persons.

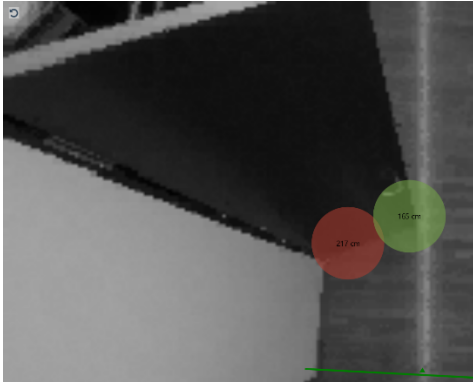


Figure 4-47: Door interpreted as two persons

This phenomenon is shown in the Figure 4-47 above. If the area to be monitored contains a door, the first thing to avoid is that the door touches the counting line when it is opened. It is also recommended to use the masking function to cover the door area. The Figure 4-45 an exemplary final solution for such situations.

4.1.4 Situation: Mirror

Another frequently occurring source of problems is mirrors or reflecting surfaces in the image section: Under certain circumstances, the sensor can perceive mirror images as real people, so that miscounts occur. Often, glazed areas in the image area are sufficient to produce this effect.

If this phenomenon occurs during the installation or validation of the Trackspot system, an exclusion or taboo mask should be used to mask the area in question.

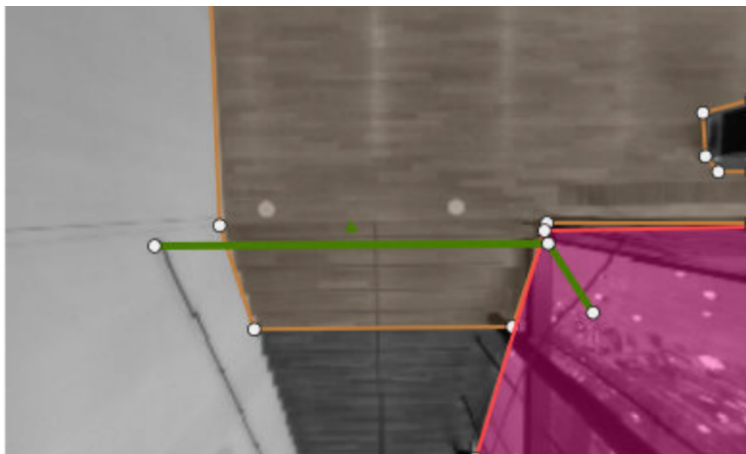


Illustration 4-89: Counting line on top step

An example is shown in the Illustration 4-8 In the lower right corner of the image, a generous exclusion mask was created to mask a mirroring area next to a staircase, thus preventing miscounts.

4.1.5 Situation: Stairs

Another frequent problem area is the monitoring of stairs or landings: Once a staircase represents a broken, sloping surface, which is difficult for the sensor to detect. Also, people sometimes tend to wait at the end of a staircase, which can also lead to multiple or incorrect counts.

The best solution can usually only be found by trying out different lines. Illustration 4-410 gives an example how such a test arrangement can look like.

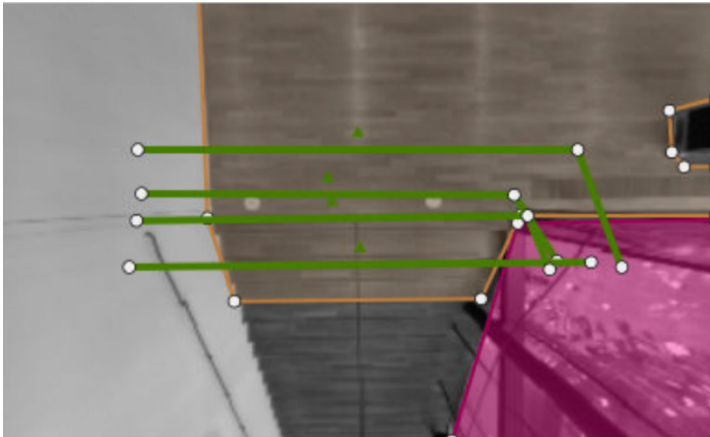


Illustration 4-41011: Test configuration with several counting lines and masked mirror surface

The final result of this test is shown in the Illustration 4-8. In this case, the best result was obtained by placing the counting line on the first step of the staircase, but this may vary considerably depending on the conditions on site.

4.2 Validation of settings for best possible results

When assembling or installing the Trackspot system, it may often be necessary to try out different configurations of counting lines and/or masking until a satisfactory functioning of the system is guaranteed: Due to reflections, lingering visitors and other factors, false or multiple counts may occur, but their effects can usually be contained by a clever arrangement of the surveillance area. A useful tool for this is the so-called *Validation Viewer* of the camera manufacturer Xovis, the use of which will be explained in this section.

The Validation-Viewer must be installed before use. To do so, simply execute the corresponding installation file ("Xovis_Validation_Viewer_Windows_x64_Setup_2_7_2.exe") on a Windows PC.

A validation image can be created via the web interface of your people counting camera. To do so, open a suitable browser on a Windows PC connected to the local network and enter the IP address of your camera. Log in with your password.

Now navigate to the *Config* tab to draw the desired counting lines for the test. Then you can use the *Live* tab to define a point in time when a validation image should be taken with the camera. To ensure realistic conditions, it is a good idea to take the validation images during regular opening hours. In any case, you should choose a time when as many visitors as possible pass through the area.



Illustration 4-12: Button for setting an appointment for validation images

After the test recordings are finished, a recording in *xvr format* is created which can be opened with the Validation Viewer. To do this, open the Validation-Viewer, click on *Open Recording* and then select the corresponding file.

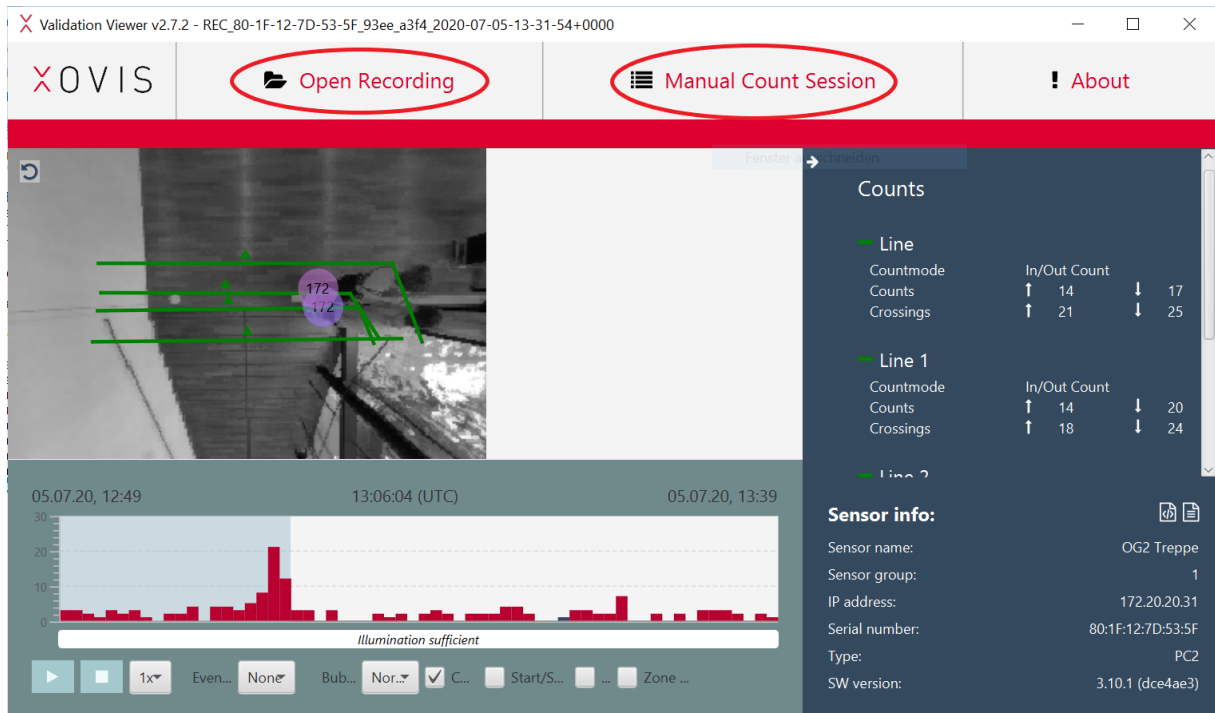


Figure 4-413: Xovis Validation Viewer

Now you can view the selected recording and evaluate how well the counting lines you have drawn work. Another very useful feature for validating the count is hidden behind the *Manual Count Session* button. This allows the user to count live while the test recording is being played back and thus compare the results of the different lines with a reference value that he has created himself. It may be advisable to increase the playback speed of the recordings, which can last up to 40 minutes, by using the menu at the bottom of the screen.

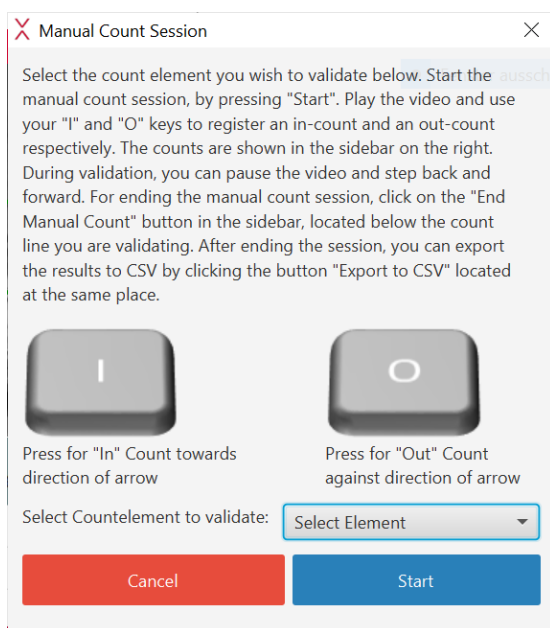
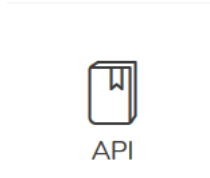
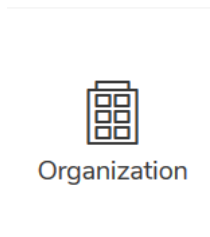
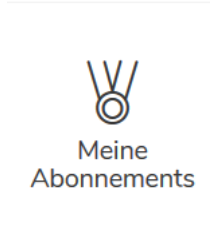
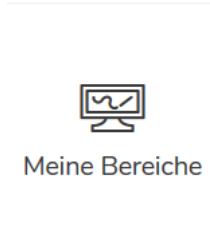
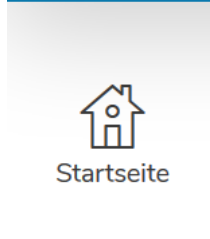


Figure 4-414: Menu to start a manual count in the Xovis Validation Viewer

If a line with satisfactory counting behavior could be identified, the validation has been successfully completed. Counting lines that have given worse results during validation should be deleted via the web interface of the camera.

5 Trackspot: Further functionalities

In addition to the visitor and customer counting and area monitoring capabilities described above, Trackspot provides the logged-in user with several other functionalities which this section will give an overview of. These are also accessible via <https://www.trackspot.de/> by logging in with your user data. The additional menu items can then be accessed via the so-called "hamburger menu", i.e. the three parallel bars in the upper left corner of the screen.



5.1 Homepage

This menu item is more or less self-explanatory: A click on this button brings the user back to Trackspot's homepage.

5.2 My areas

Here an overview of the areas set up and monitored by the user can be displayed. Also additional areas can be created or existing ones deleted here. Detailed explanations of areas can be found in section 1.2.

5.3 My subscriptions

A summary of the subscriptions valid for your organization can be viewed here. A click on *contract overview* brings you to a detailed view for the respective subscription.

In addition, it is possible to create or enter new subscriptions.

5.4 Organization

Behind this button you will find a list of all users who belong to your organization and have an access code for the Trackspot website.

Clicking on the name of a member of your organization opens the dialog for assigning rights. In addition to the e-mail address and, if applicable, the first and last name of the user, the dialog shows which rights the user has:

A user with the authorization *Area Manager* cannot create new areas, but he is authorized to adjust the number of visitors to an area using the plus/minus buttons and thus make any necessary corrections. He can also open and close the area and activate or deactivate individual accesses.

As a *Subscription Administrator*, a user is authorized to create new subscriptions.

The authorization level of the *Global Administrator* includes all rights of the other levels as well as the ability to create new areas or delete existing areas. Care

should therefore be taken when assigning these rights.

5.5 API

Here you can find the necessary documentation to connect your devices to the Trackspot API.