

PERCEPT CLOUD

PERCEPT Cloud - User Manual

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Contents

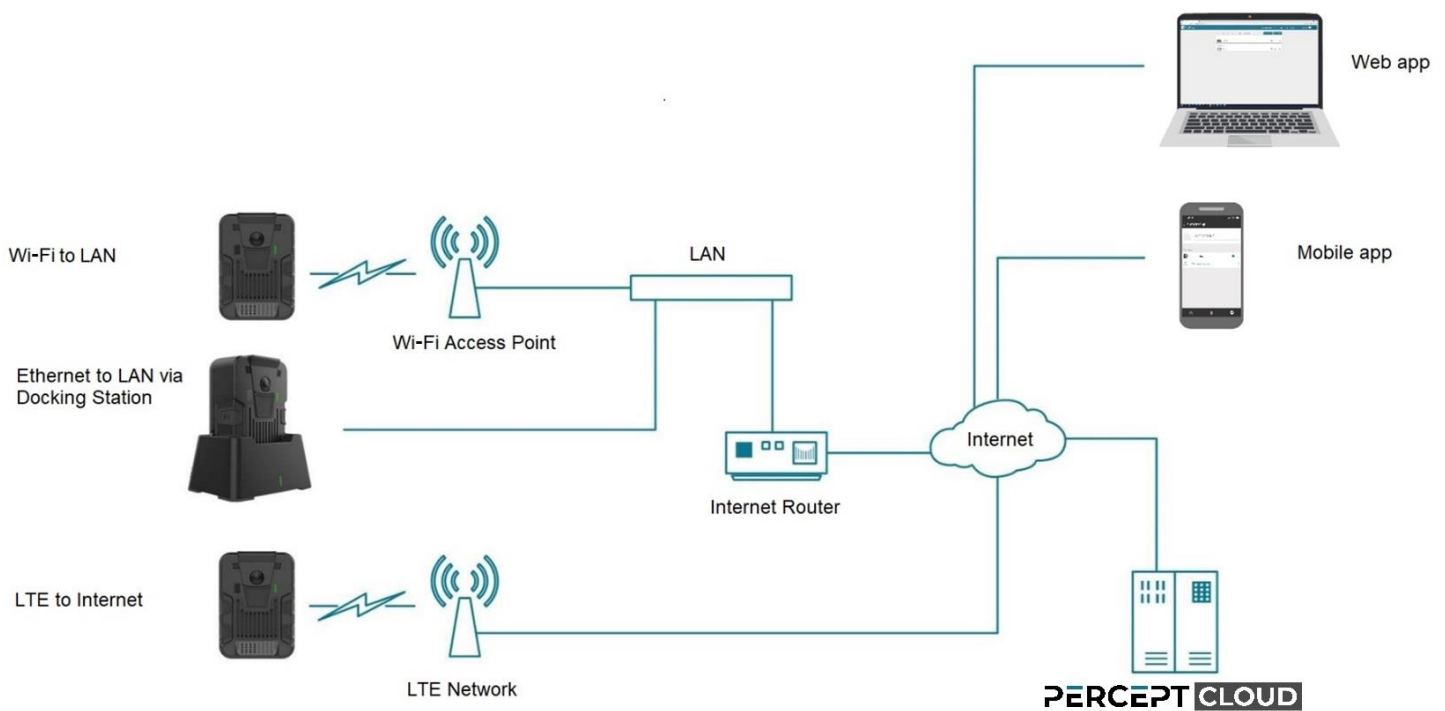
- 1 Introduction 4
- 2 Solution Overview 4
- 3 Integrating the body camera with PERCEPT Cloud..... 5
- 4 PERCEPT Cloud Web App..... 6
 - 4.1 Access to the PERCEPT Cloud Web App..... 6
 - 4.2 Adding a new camera..... 7
 - 4.3 Using Global Features..... 13
 - 4.3.1 Live 14
 - 4.3.2 Footage 15
 - 4.3.3 Events 16
 - 4.3.4 Settings 16
 - 4.4 Managing Device Settings..... 19
 - 4.4.1 Camera Info..... 19
 - 4.4.2 Recording 20
 - 4.4.3 Schedule & Notifications 22
 - 4.4.4 Networks..... 22
 - 4.4.5 Video & Sound 23
 - 4.4.6 Account settings and cloud notifications 23
- 5 PERCEPT Cloud Mobile App 26
 - 5.1 Access to the PERCEPT Cloud Mobile App..... 26
 - 5.2 Adding a new camera..... 28
 - 5.3 Viewing Live Video..... 34
 - 5.4 Events..... 36
 - 5.5 Managing Device Settings..... 37
 - 5.6 Changing User Account Settings..... 38
 - 5.7 Smartphone Notifications..... 39
- 6 PERCEPT cloud Troubleshooting 40
 - 6.1 Camera Manager Firewall Guide..... 40

- 6.2 Camera Manager FAQ..... 40
 - 6.2.1 Installed a new router, and cameras are offline..... 40
 - 6.2.2 Can't find the camera in the Camera Finder. 41
 - 6.2.3 How to control the bandwidth that camera is using? 41

1 Introduction

One of the most important features of the IONODES PERCEPT Body Camera Solution is the ability to store the captured data in a cloud-based platform called IONODES PERCEPT Cloud. Aside from the recorded footage, this platform can also provide live video from the body cameras to any device, either mobile or stationary via the mobile and web apps.

2 Solution Overview

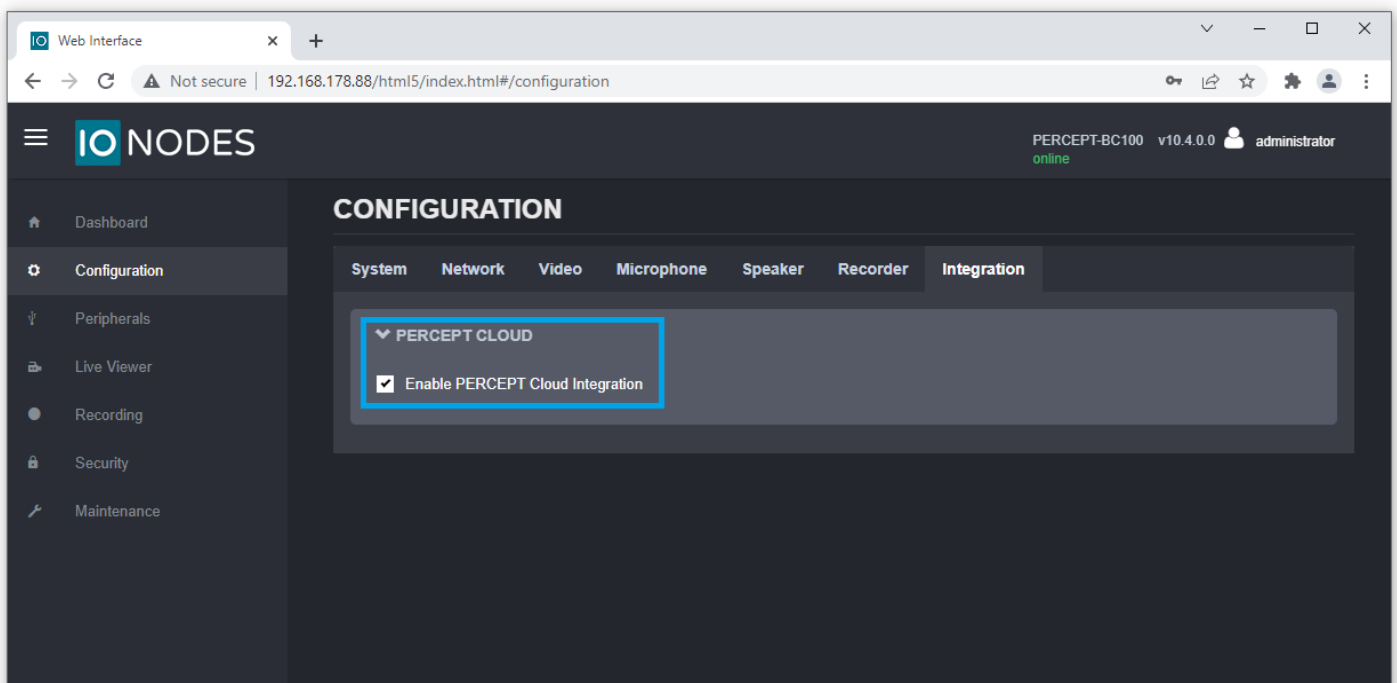


A typical deployment is comprised of the PERCEPT Body Camera, an internet-connected local LAN network, the PERCEPT Cloud services, and the PERCEPT Cloud web and mobile apps. Everything is connected via secure Internet connectivity.

3 Integrating the body camera with PERCEPT Cloud

To use a PERCEPT Body Camera with the PERCEPT Cloud video services, the following conditions need to be met:

- a) "Enable PERCEPT Cloud Integration" is activated from the Configuration > Integration tab in the body camera's web management interface.
- b) The PERCEPT Body Camera is connected to a network with Internet access.

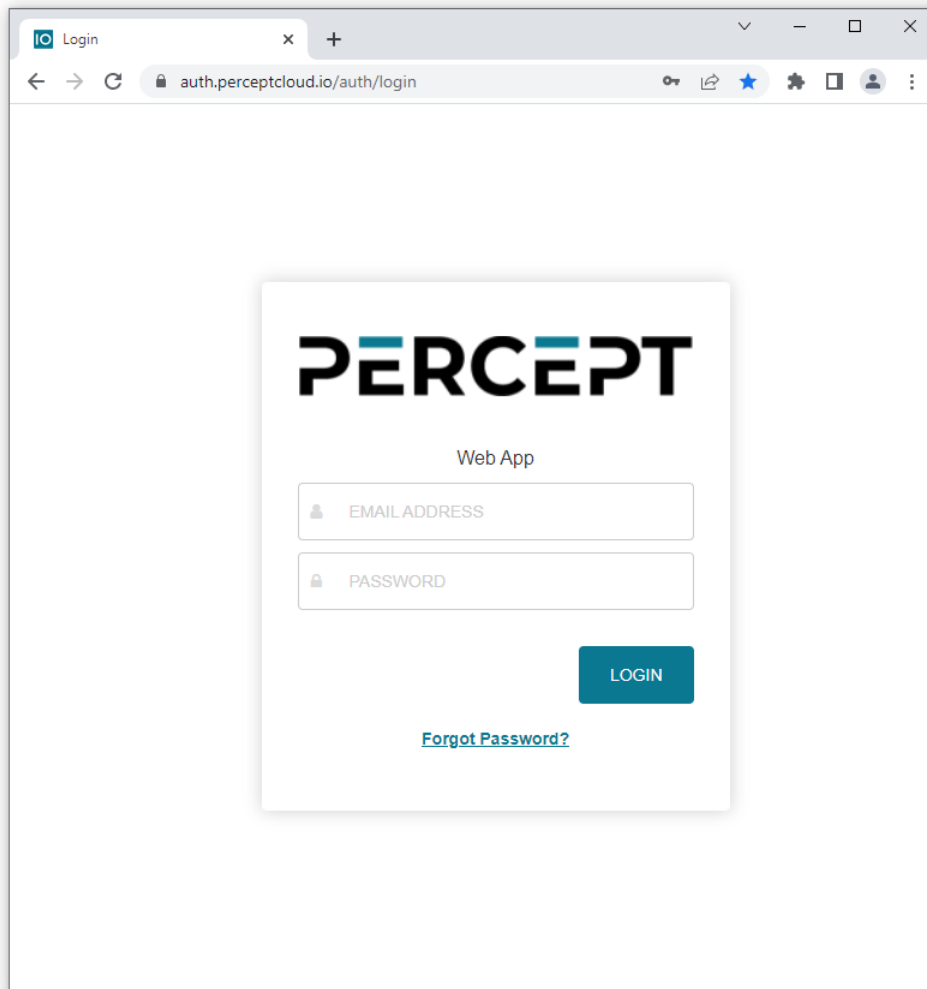


Note: The PERCEPT Cloud Integration can also be enabled directly from the Initial QR setup of the body camera. Please refer to the PERCEPT Quick Start Guide for more information on that.

4 PERCEPT Cloud Web App

4.1 Access to the PERCEPT Cloud Web App

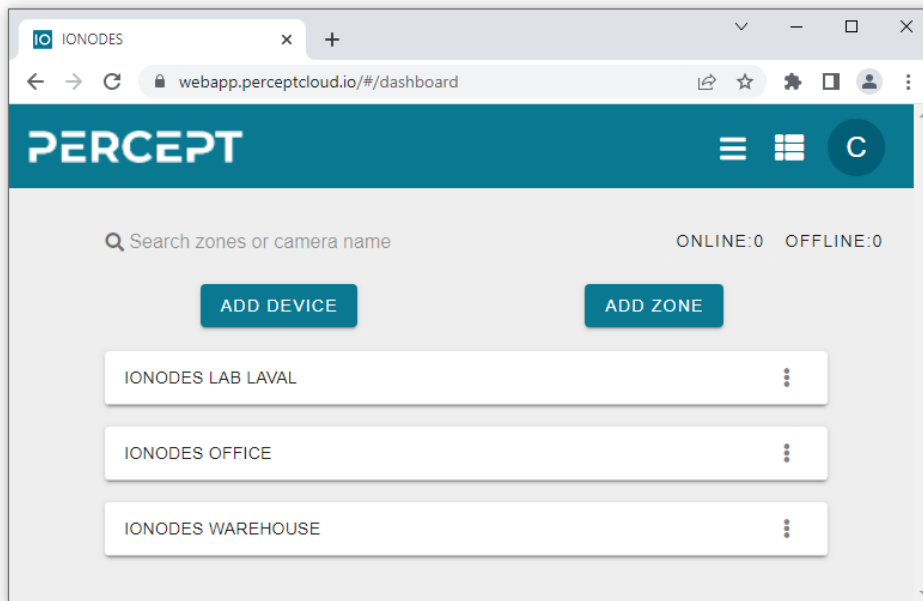
When connecting via the web app, the PERCEPT Cloud platform can be accessed from any Chromium-based browser (like for instance Google Chrome or Microsoft Edge) using the following link: <https://auth.perceptcloud.io/auth/login>



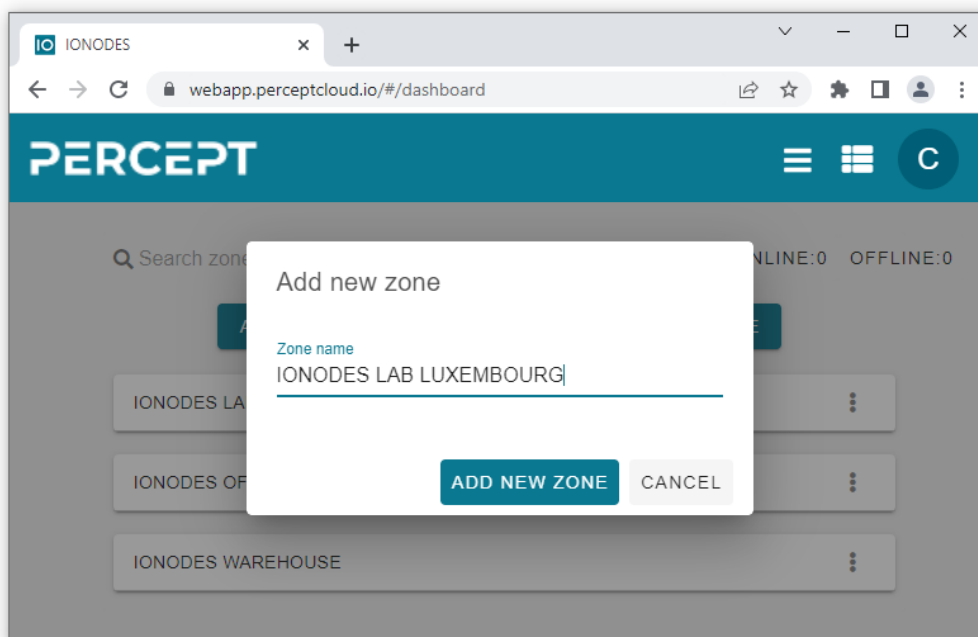
Here the user will need to input the credentials received when signing up for the PERCEPT Cloud account. In case the user does not remember his/her password, it can be reset by using the "Forgot password?" link located on the bottom of the login page.

4.2 Adding a new camera

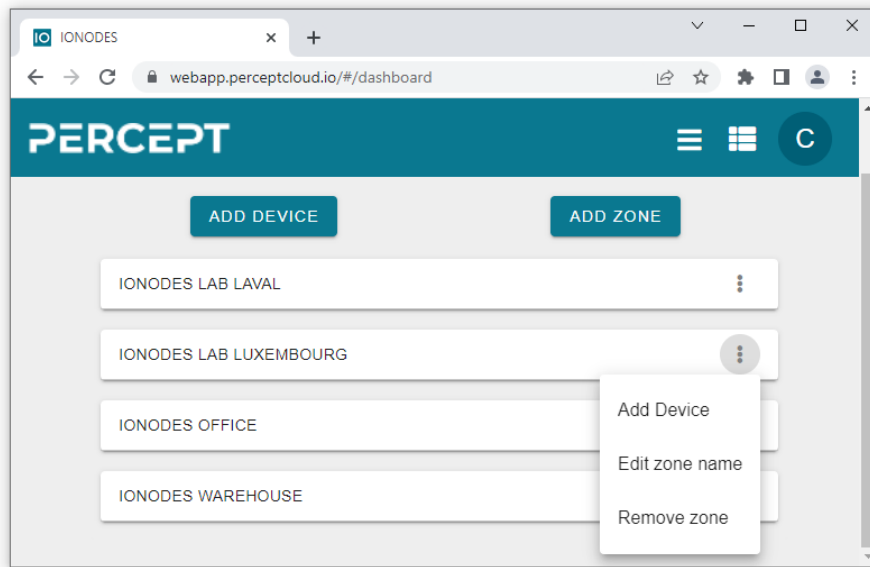
Once logged in, the user is presented with a dashboard that shows all configured *Zones* and the *Devices* that are associated with each zone. A *Zone* is a group of *Devices*. The grouping can be performed based on geographic location or other criteria (like same administrator/owner, same department, etc.).



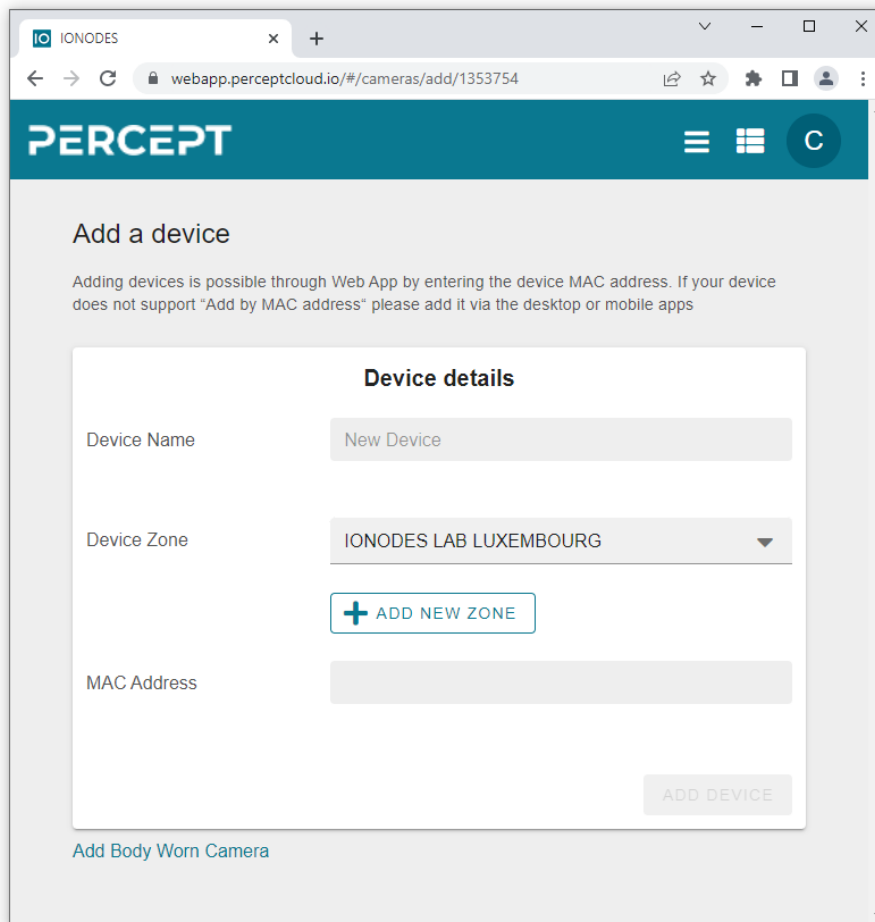
To add a new *Zone*, simply click on “Add Zone” and give your location a name.



After the zone is created, the user can add a device to it, rename it or remove it altogether.

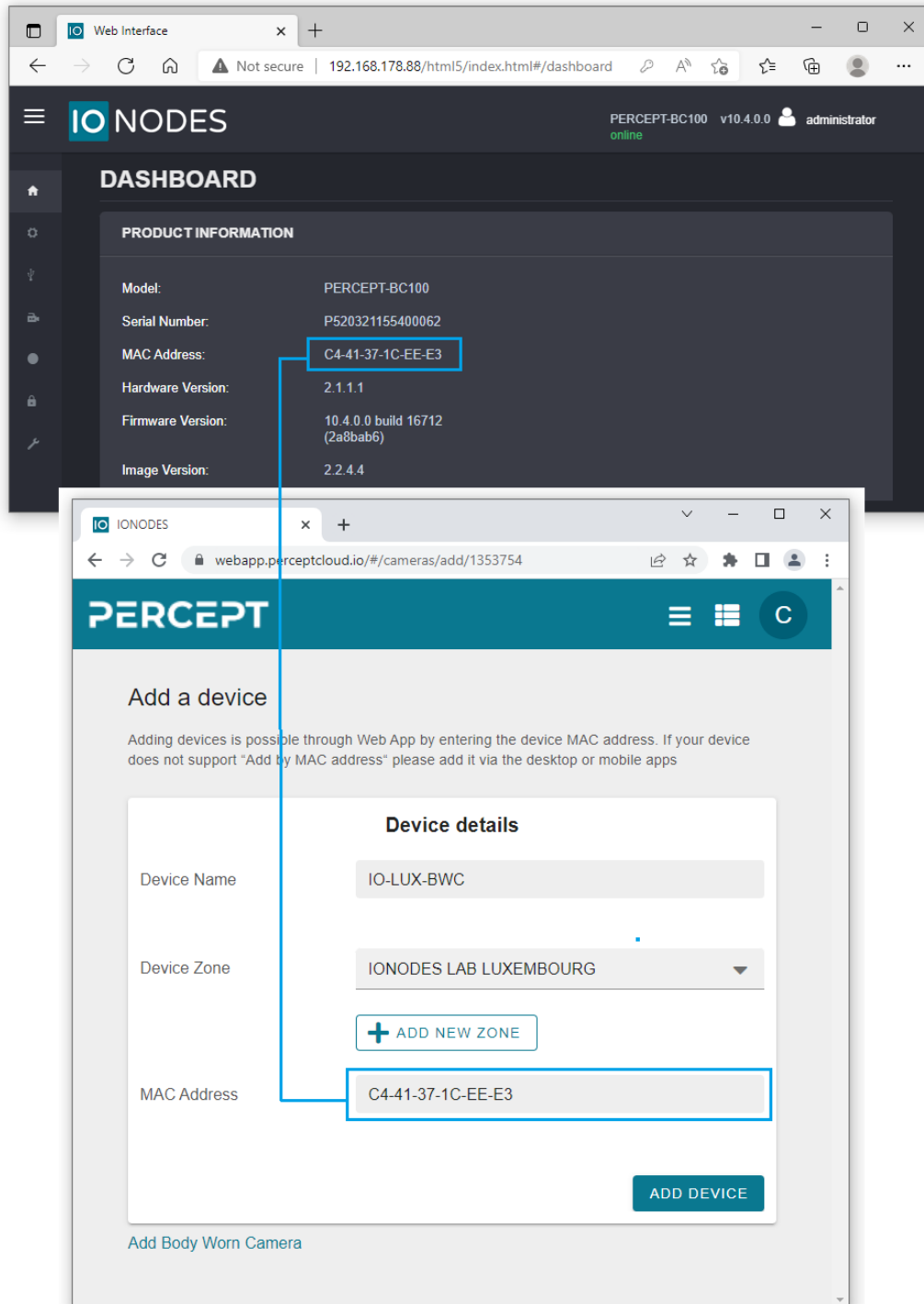


To add a new device to your zone, click "Add Device" from the zone's menu.



There are two possible scenarios when adding the new device:

- 1) *The device is already connected to a network (either Wi-Fi or mobile network) with Internet access. In this case only the MAC address of the device is required.*



If you have multiple devices that need to be added, you can select “Add Multiple Devices”.

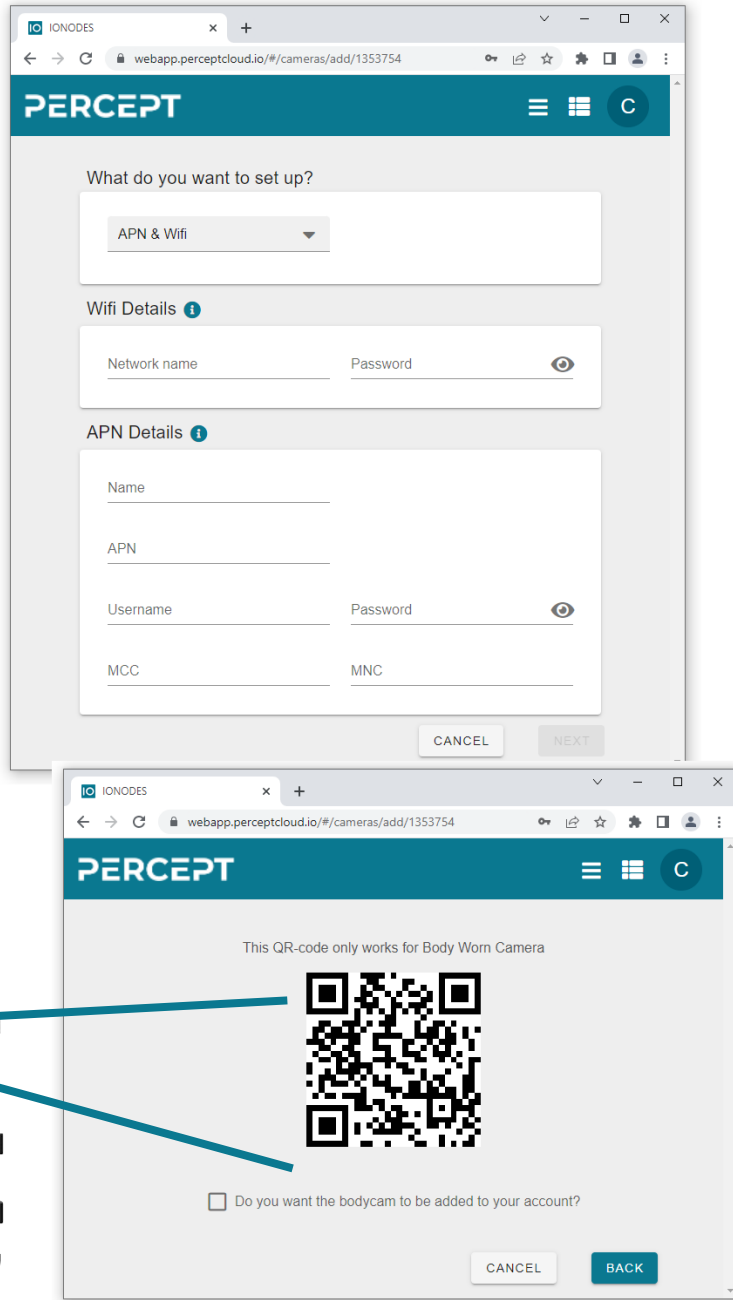
Add multiple devices

You can add multiple devices right away.

Name	Zone	MAC address	
<input type="text" value="Enter name"/>	<input type="text"/>	<input type="text" value="Enter MAC address"/>	
<input type="text" value="Enter name"/>	<input type="text"/>	<input type="text" value="Enter MAC address"/>	✕
<input type="text" value="Enter name"/>	<input type="text"/>	<input type="text" value="Enter MAC address"/>	✕
<input type="text" value="Enter name"/>	<input type="text"/>	<input type="text" value="Enter MAC address"/>	✕
<input type="text" value="Enter name"/>	<input type="text"/>	<input type="text" value="Enter MAC address"/>	✕

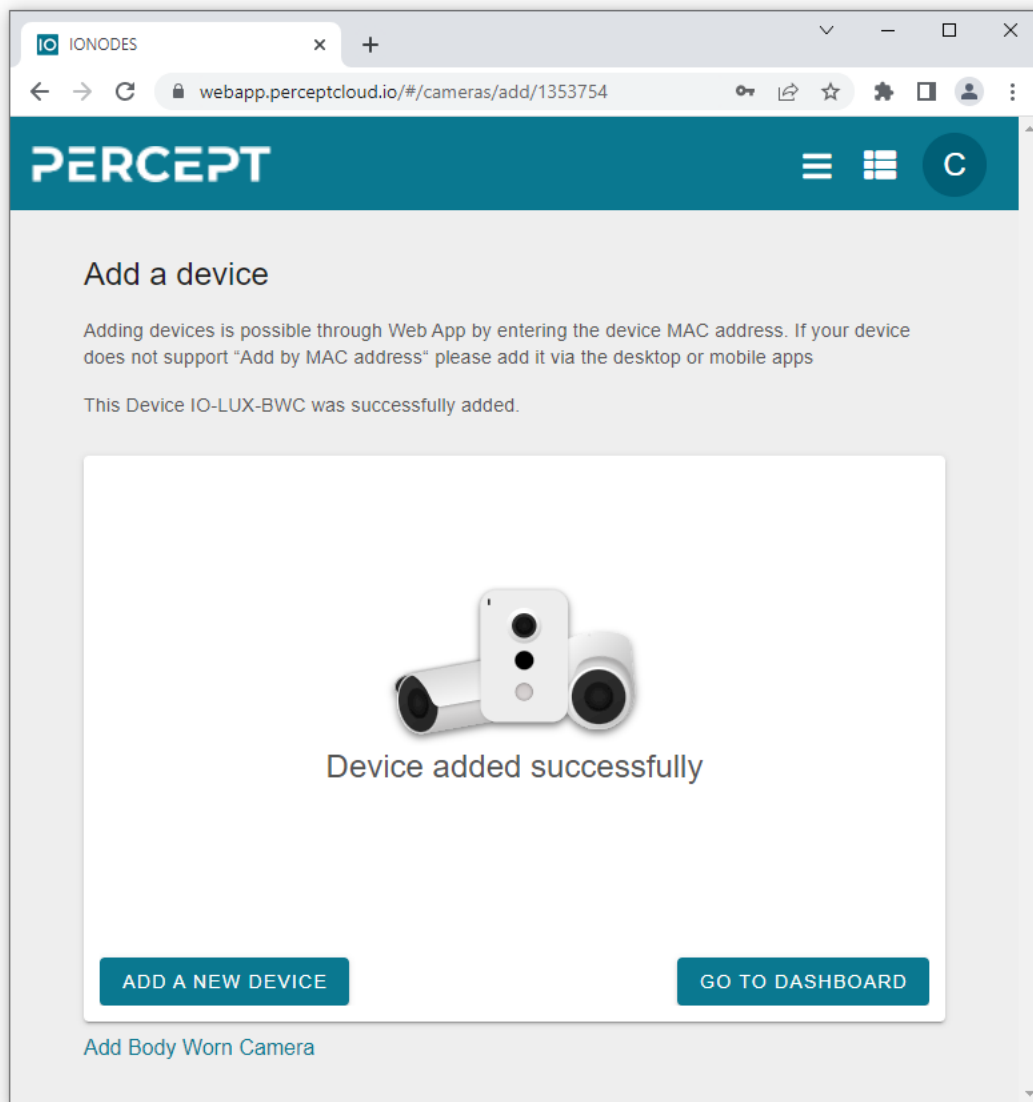
Using the same details:

- *Device Name*, for your choose of the device as identifier.
 - *Zone*, here you can select any of the created zones available. It is not dependable to keep the same zone for the devices.
 - *MAC address*, for each device you add, you can find it on the OE led of the Body Worn Camera, device, or from the web interface, as presented above section.
- 2) *The device is not yet connected to a network*. In this case the user will need to select “Add Body Worn Camera” option and manually configure the APN / Wi-Fi Details to generate a new QR code for the body camera to scan (for importing these settings to the device).



Note: The APN settings are provided by the mobile network operator after the user subscribes to a data plan.

Once the device has been successfully added, a confirmation is presented to the user. From there the user can go back to the *Dashboard* or proceed to add a new device.



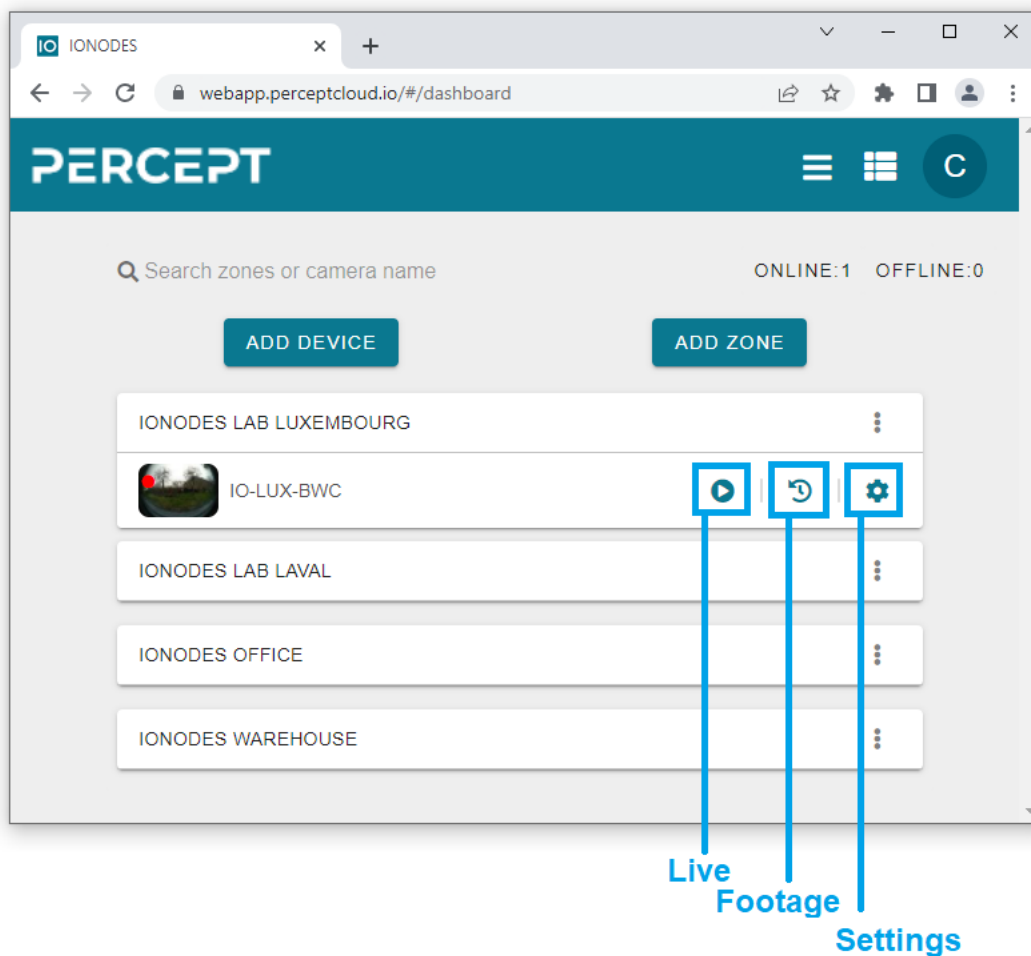
Note: When the PERCEPT Body Camera is added to the PERCEPT Cloud platform, some changes will occur compared to its standard behavior:

- There is no post-recording (the corresponding settings on the body camera are ignored)
- F1 and F3 buttons work as start (one click) / stop (5 sec long click) recording
- F5 button triggers an "Emergency" cloud event; a long press (5 sec) stops the recording
- F2 and F4 buttons trigger a 60 sec "Moment of interest" cloud event
- Audio recording on the body camera will switch from Stereo to Mono on G711

4.3 Using Global Features

From the *Dashboard* section the user can view *Live* video, recorded *Footage* or modify the *Settings* for each device, by clicking on the corresponding icons on the right-hand side of that specific device. The same sections can also be accessed globally (for all devices) from the links on the top menu bar of the *Dashboard* page.

Aside from the above, there is also a section called *Events* that allows the user to search for a specific clip based on Time/Date and the Event Type marker associated with that clip.

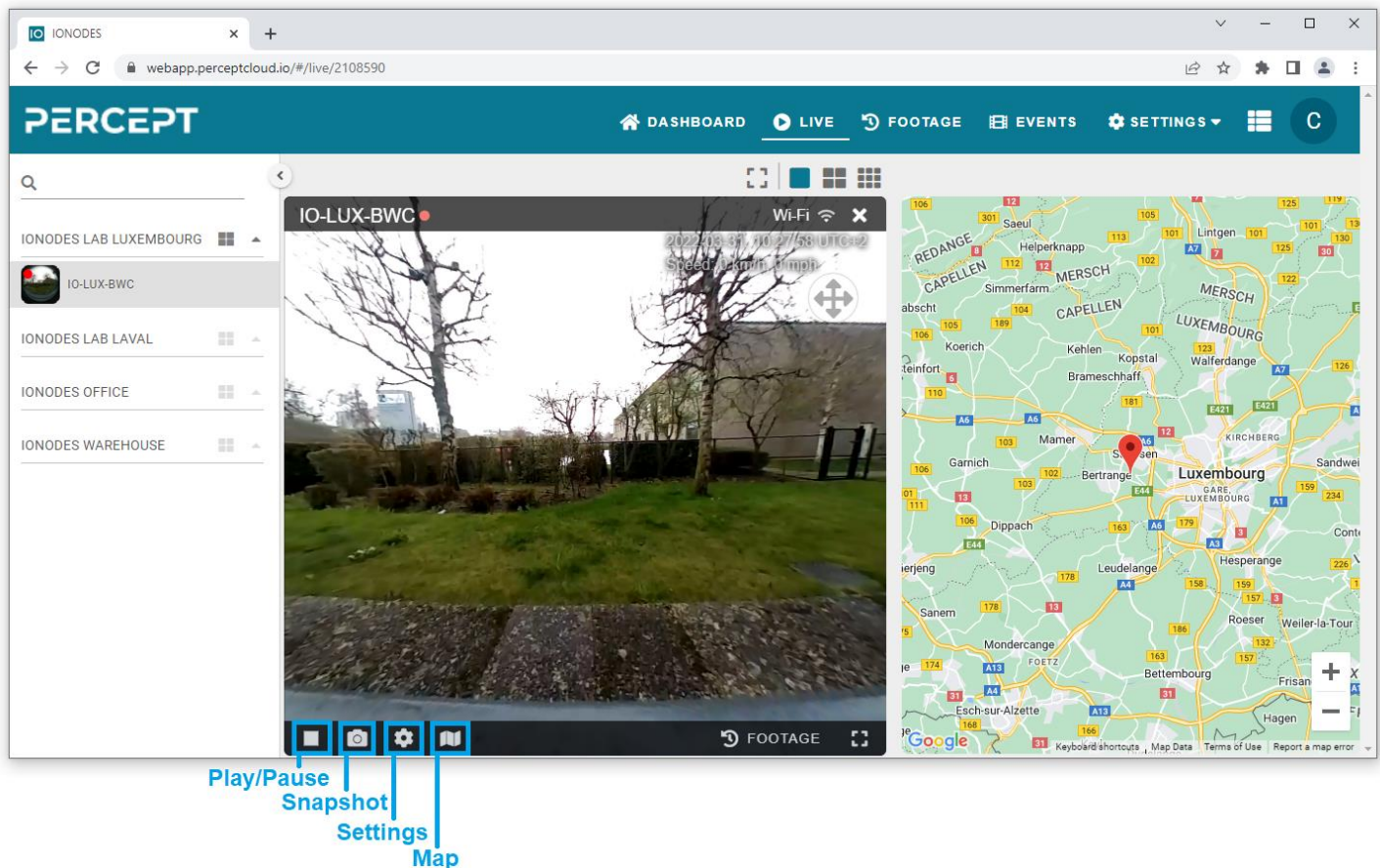


Note: A small red dot may appear inside the preview image from a body camera. It shows that specific device is currently recording to the PERCEPT Cloud.

4.3.1 Live

The *Live* section allows live streaming from the body camera.

If the body camera is outside and the GPS is locked, the user can also bring up a map showing the exact position of the body camera in real-time. Overlaid on top of the image is the current time/date (based on the local Time Zone defined in the device's settings), as well as current speed information.

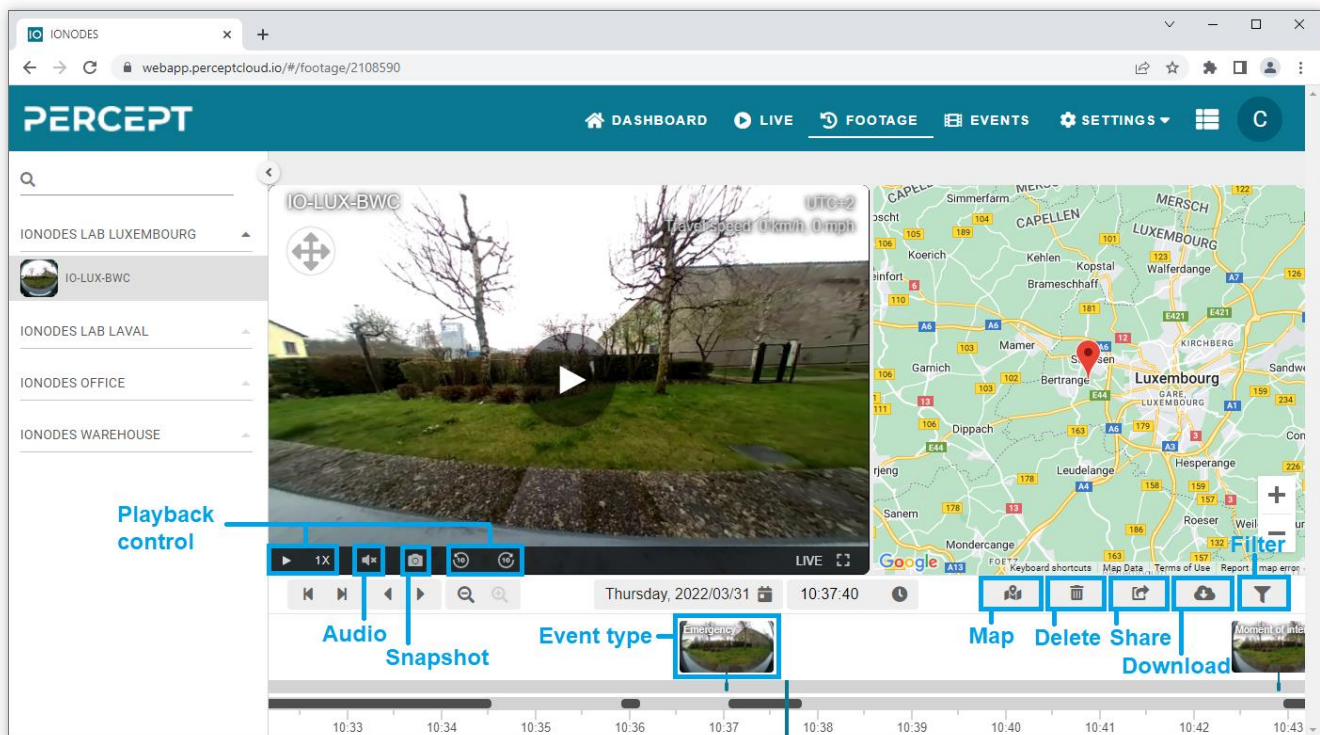


On the bottom of the image the user is presented with the following options:

- *Play/Pause* the video.
- Take a *Snapshot*.
- Manage device *Settings*.
- Show the *Map*.

4.3.2 Footage

The *Footage* section presents all video that has been recorded to the PERCEPT Cloud.



If a certain clip has been triggered via a button press on the device an *Event Type* marker will be added to the Timeline. These markers can be used as *Filter* criteria, helping the user easily find a specific clip that he is interested in.

On the bottom right of the image the user is presented with the following options:

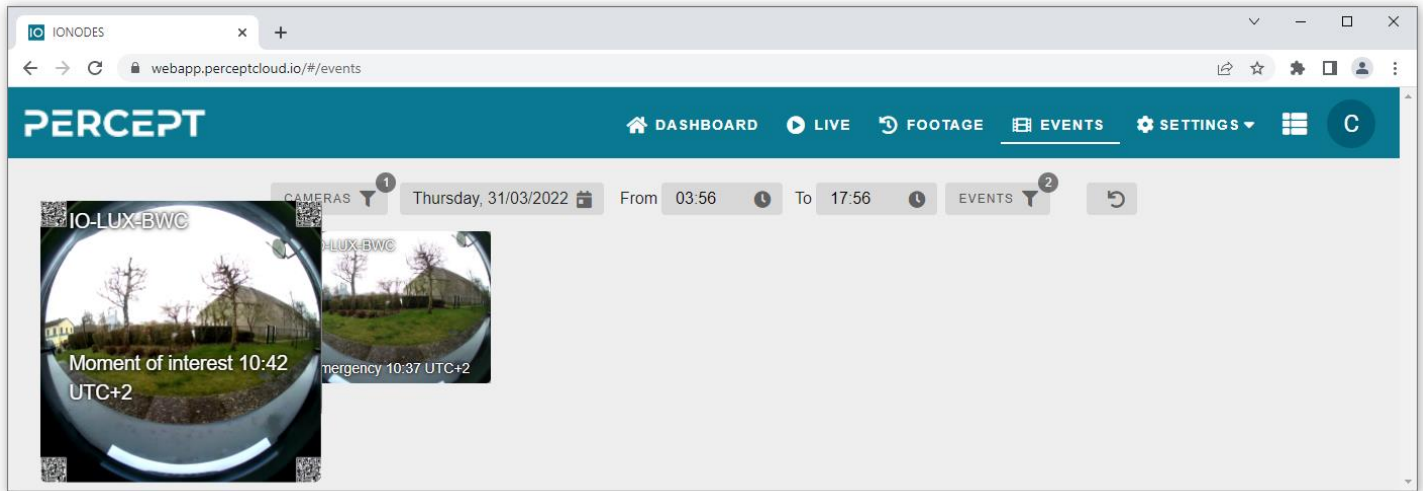
- Show the *Map* (if GPS information is present within that clip).
- *Delete* the clip.
- *Share* the clip.
- *Download* the clip.
- *Filter* based on *Event Type*.

On the bottom left of the image the user is presented with the following options:

- *Playback control* buttons (play/ pause/ playback speed/ skip forward/ skip backward).
- *Audio Mute/Unmute*.
- Take a *Snapshot*.

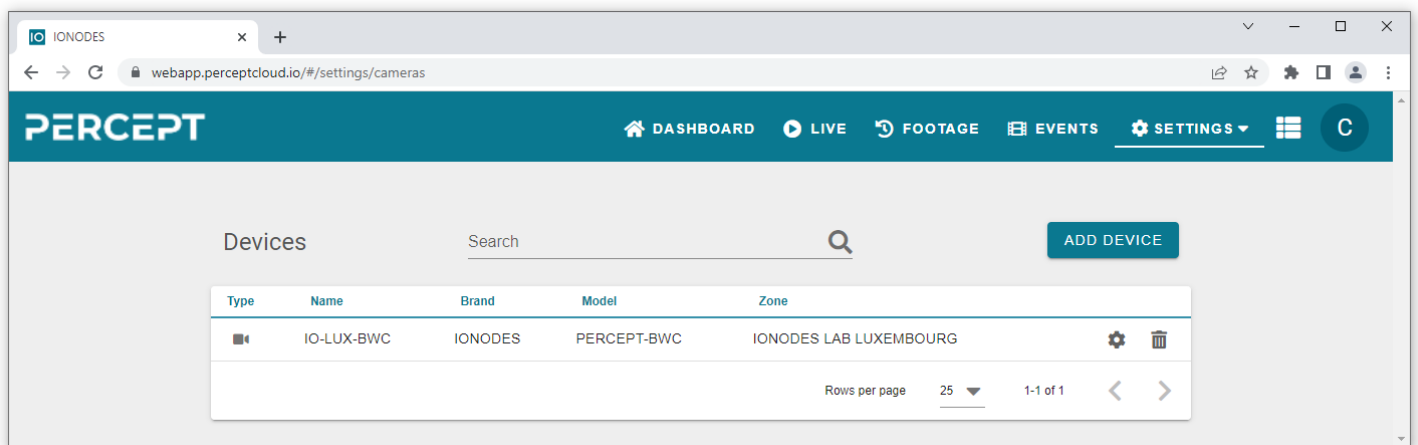
4.3.3 Events

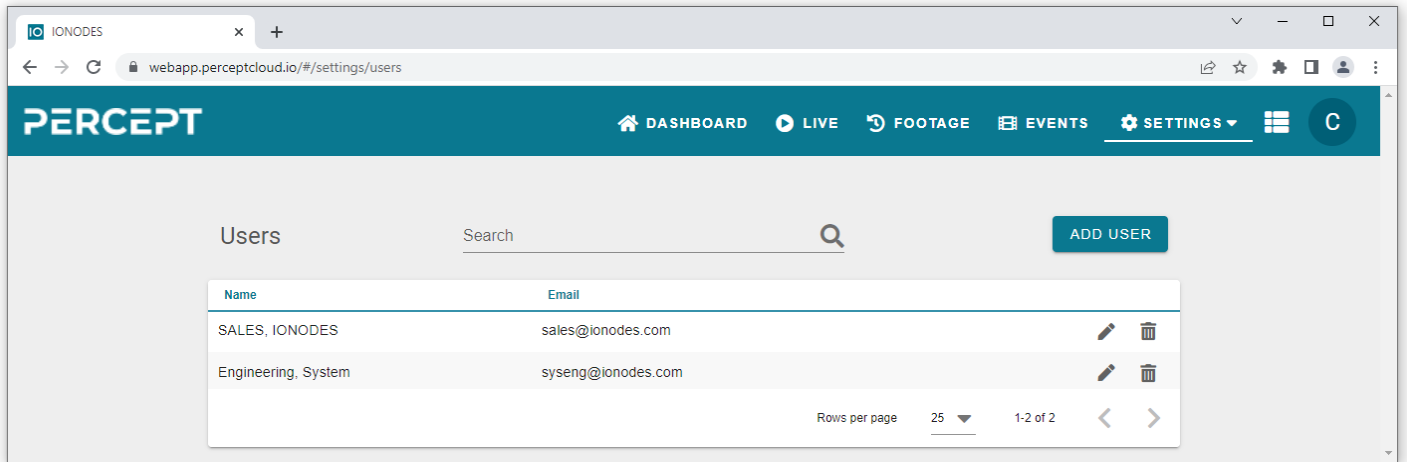
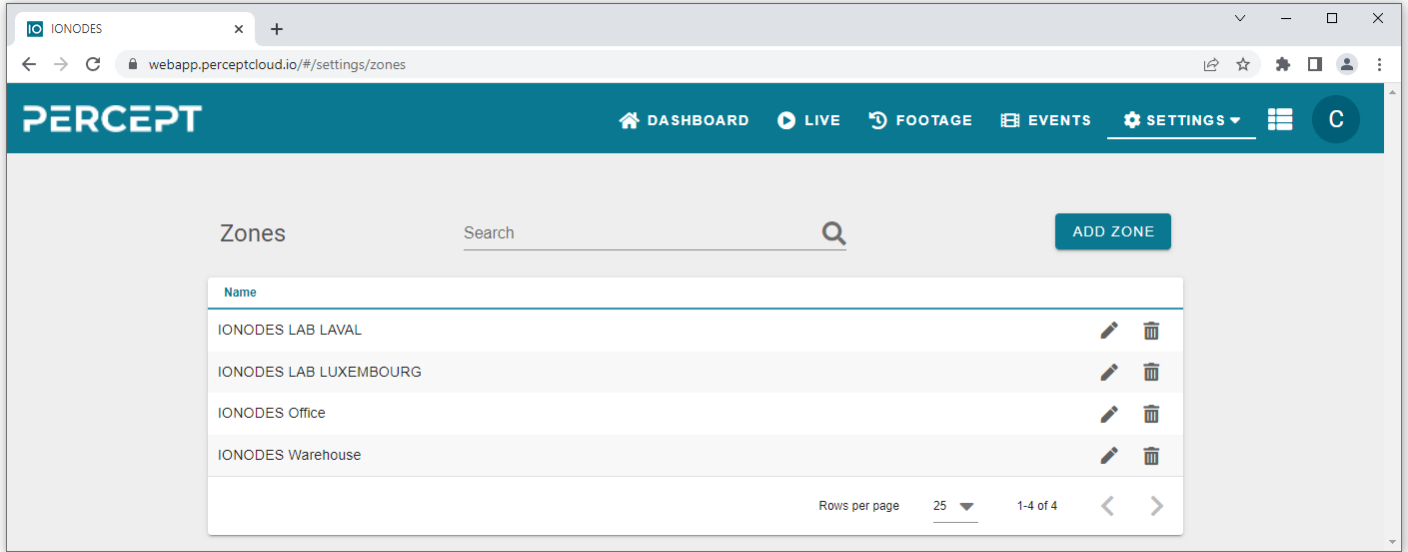
The *Events* section allows the user to search for a specific clip based on Time/Date, as well as Event Type and the body camera. Within the results, if the user hovers the mouse pointer over a certain clip, that clip will start playing in a small preview window, as seen in the screenshot below.



4.3.4 Settings

The *Settings* tab allows the user to manage the different *Devices*, *Zones*, *Users* or check the *Audit Logs*.





On the *Settings > Devices*, *Settings > Zones* and *Settings > Users* pages you'll be able to see a list of all items pertaining to those categories and will be presented with the options to edit or delete them.

The user can also search for a specific item using the *Search* field or add a new item from the same category using the "Add" button.

The *Settings > Audit Logs* page will present a log of the various actions (see complete list below) performed on the account. Each action has an associated timestamp, and the *Details* section provides additional contextual information related to it (for instance the IP address that originated the action).

PERCEPT DASHBOARD LIVE FOOTAGE EVENTS SETTINGS

Search From Thursday, 2022-03-31 To Thursday, 2022-03-31

Time	User	Activity	Camera	Details
2022-03-31, 11:36:44	sales@ionodes.com	Zones - Update		▼
2022-03-31, 11:38:27	sales@ionodes.com	Zones - Add		▼
2022-03-31, 11:38:33	sales@ionodes.com	Zones - Delete		▼
2022-03-31, 11:42:18	sales@ionodes.com	Zones - Add		▼
2022-03-31, 12:17:14	sales@ionodes.com	Zones - Update		▼
2022-03-31, 12:18:47	sales@ionodes.com	Login		▲
Ip Address : 83.99.15.151				
2022-03-31, 12:18:52	sales@ionodes.com	Login		▼
2022-03-31, 12:18:57	sales@ionodes.com	Login		▼
2022-03-31, 12:19:02	sales@ionodes.com	Login		▼
2022-03-31, 12:19:09	sales@ionodes.com	Login		▼

Rows per page 10 11-20 of 22

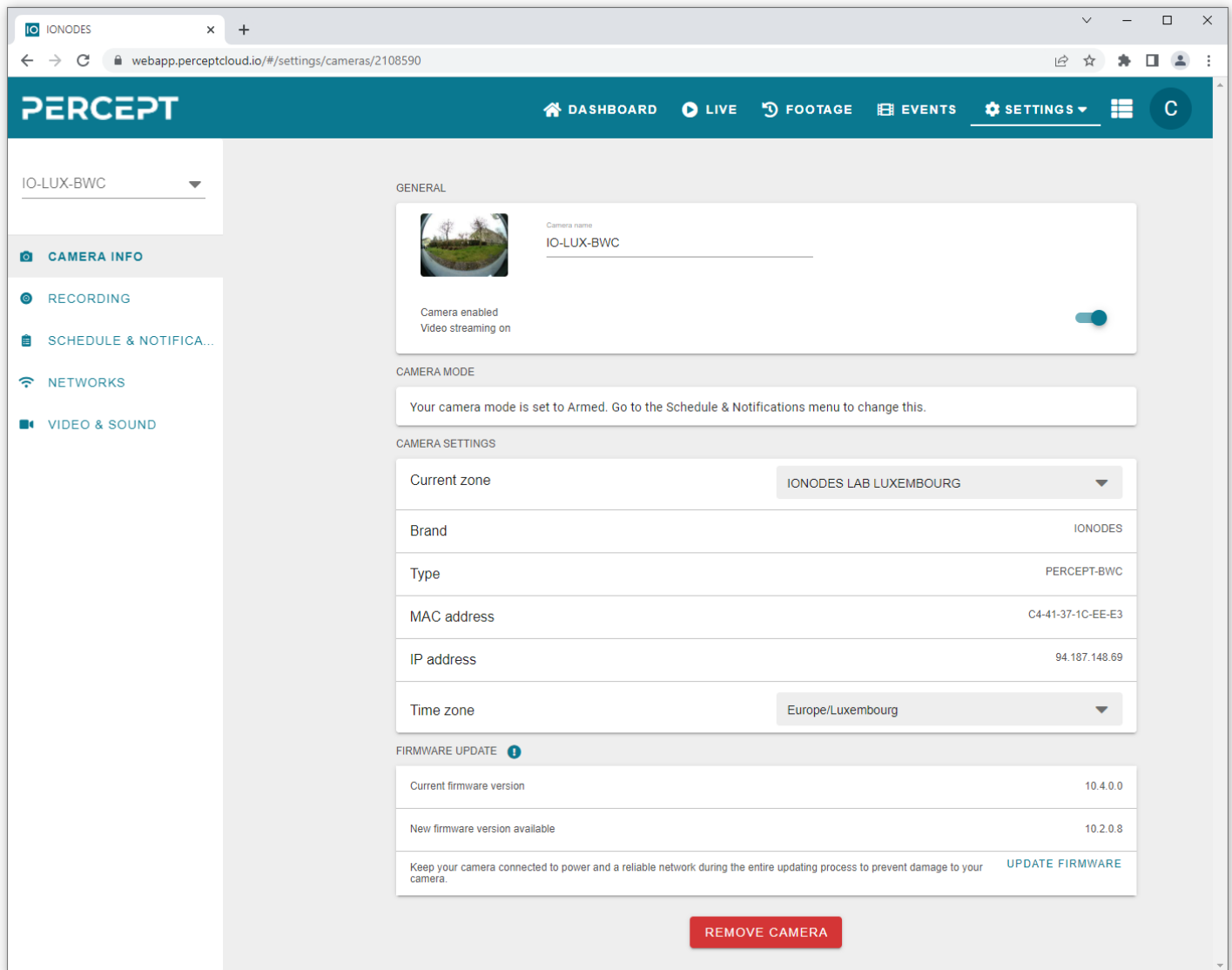
Available Logs

Zones - Add	Cameras - Add	Sub User - Add	Login	Footage - Play
Zones - Update	Cameras - Update	Sub User - Update	Logout	Footage - Export
Zones - Delete	Cameras - Delete	Sub User - Delete		Footage - Delete
		Set recording schedule		
		Set email notification schedule		
		Set push notification schedule		

4.4 Managing Device Settings

4.4.1 Camera Info

The *Camera Info* section provides general information related to the device and allows the user to change the current Time Zone or perform a Firmware update. For privacy reasons, the body camera (along with video streaming) can also be remotely disabled.



4.4.2 Recording

The *Recording* section allows the user to configure the recording type (*Event based* or *Continuous*), format the body camera's internal SD card (deletes all data on the SD card) and enable/disable the *Cloud Sync* (for offloading locally stored video to the PERCEPT Cloud platform).

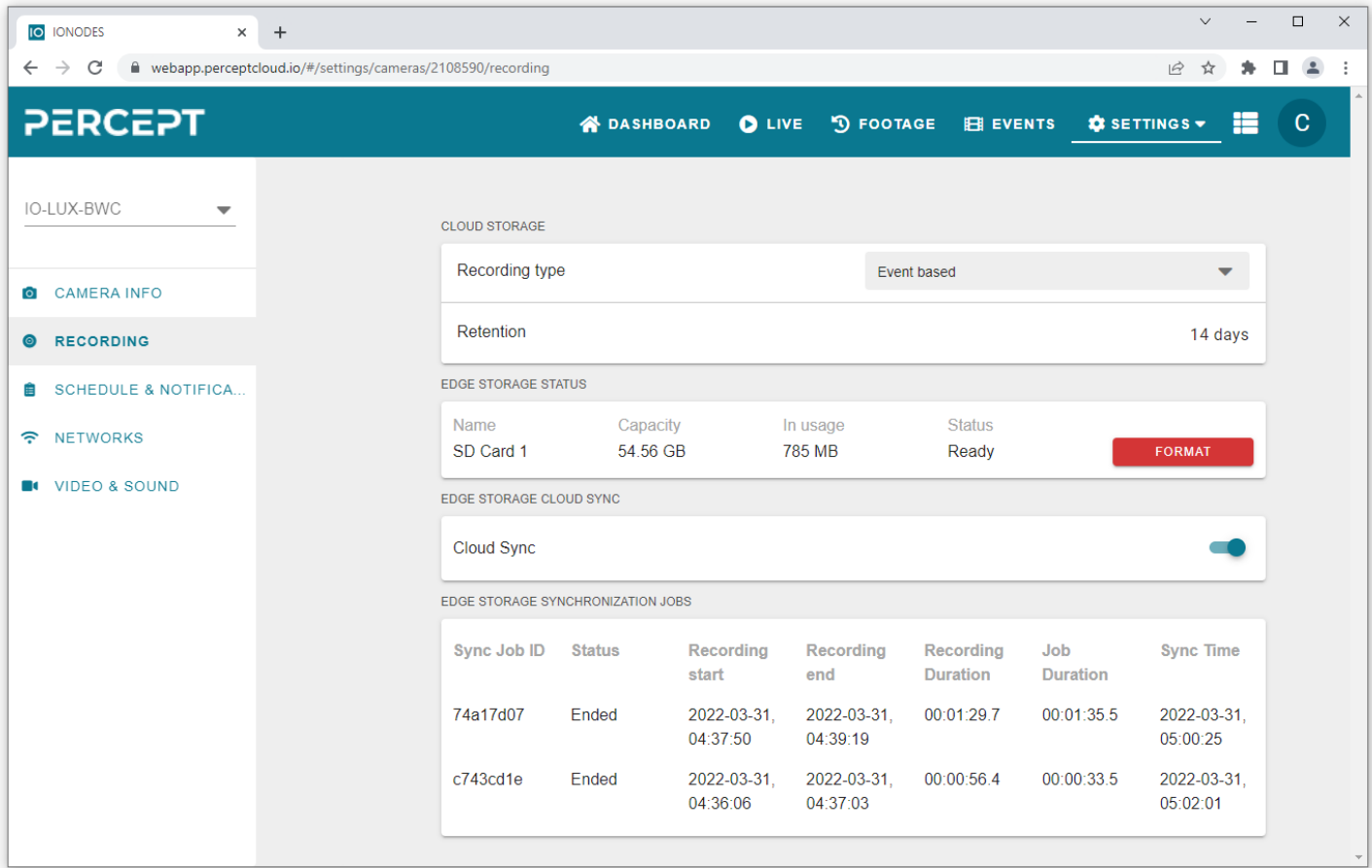
Recording type:

- *Event based*: is triggered by the camera wearer by pressing a button on the body camera.
How does it work?
 - *Pressing the F5 button will start (short press) / stop (long press) a recording session that will be tagged with "Emergency" event.*
 - *Pressing the F2 or F4 buttons will trigger a 60 sec recording session that will be tagged with "Moment of interest" event.*
 - *Same events received in the first 30 sec are discarded.*
 - *Any event received after the first 30 sec will restart the 60 sec timer.*
 - *The F1 and F3 buttons work as start (one click) / stop (5 sec long click) recording (no event tag is created this time, as opposed to the other buttons mentioned above)*
- *Continuous*: the body camera is always recording to the PERCEPT Cloud.

Note: Whenever a Live View session is open in the web app or mobile app, the video will also be recorded to the PERCEPT Cloud.

Local storage *Cloud Sync*:

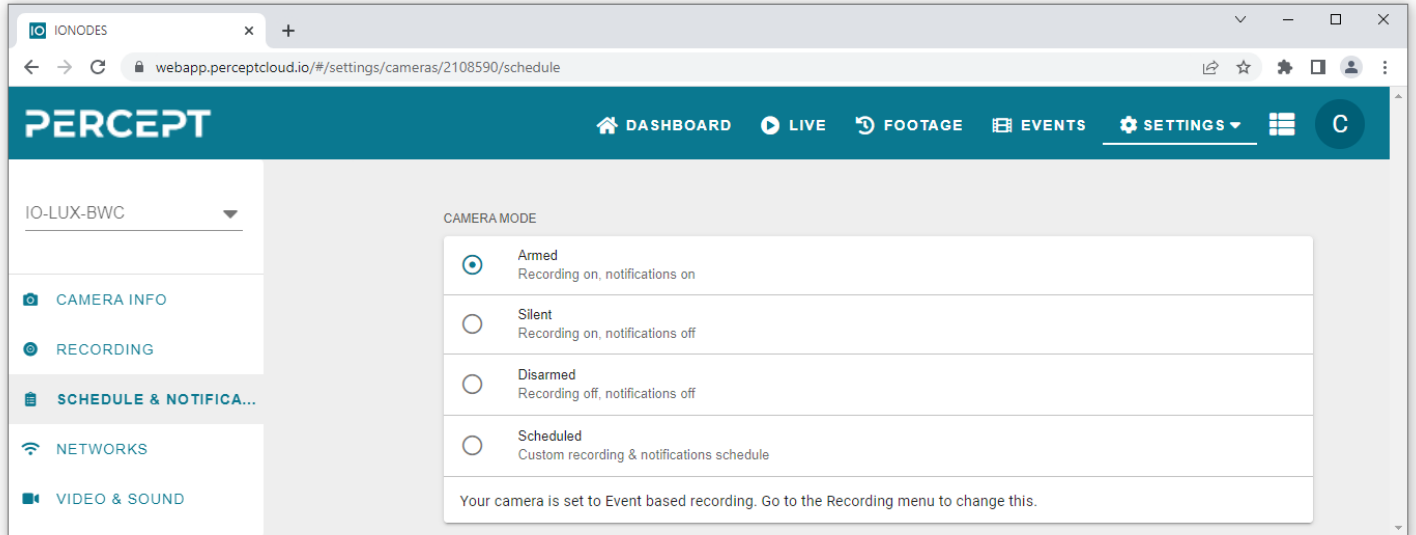
- All clips on the body camera's local storage are synchronized to the cloud as follows:
 - Upon Cloud Sync enable, a first job is done, then it is every hour; the PERCEPT Cloud platform will automatically interrogate the body camera, see what recordings are missing and transfer them.
 - The recordings are not deleted from the body camera, so, after the synchronization, the user will see the recordings both on the body camera itself (via the device's web interface) and on the PERCEPT Cloud platform (via the web app or mobile app)
- The local recordings on the body camera that date before the addition of unit to the PERCEPT Cloud are not synchronized.



Note: The retention time to the PERCEPT Cloud is based on the active subscription plan and cannot be manually configured.

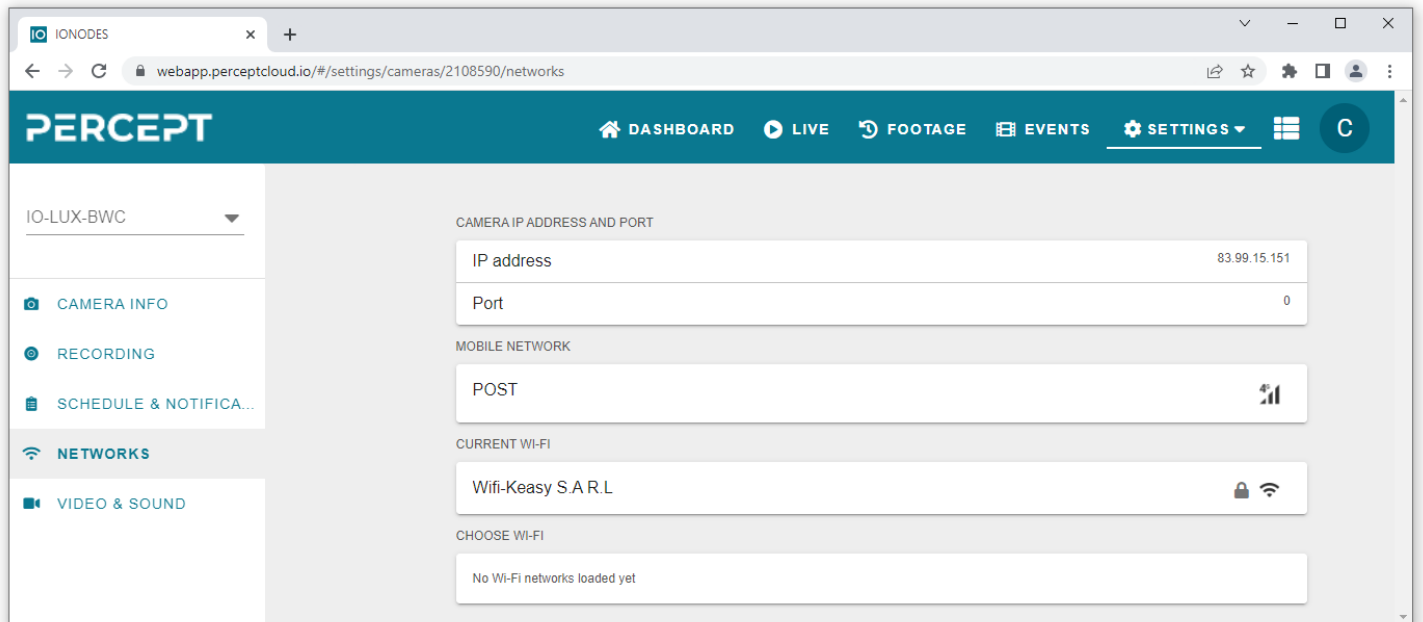
4.4.3 Schedule & Notifications

The *Schedule & Notifications* section allows the user to restrict the recording on the body camera to a certain interval and enable/disable the notifications related to the recording process.



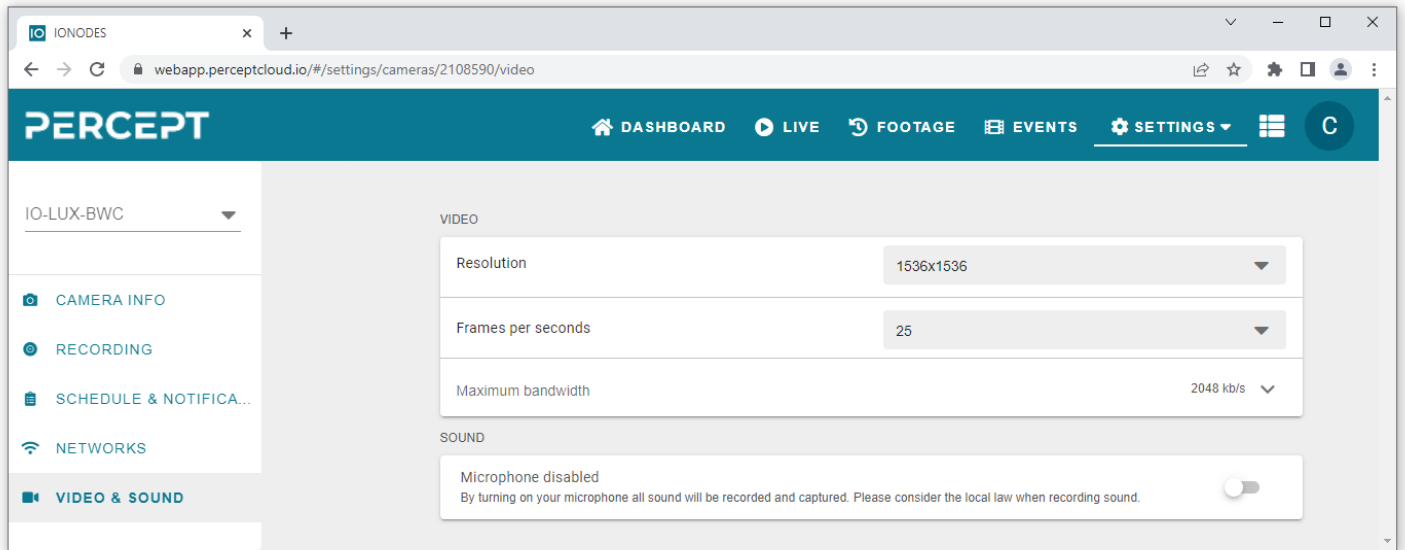
4.4.4 Networks

The *Networks* section provides information on the network the body camera is connected to.



4.4.5 Video & Sound

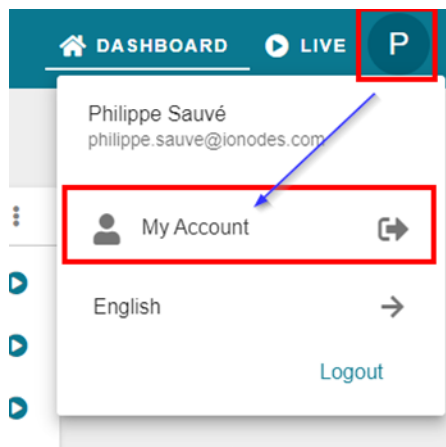
The *Video & Sound* section allows the user to customize the resolution, frame rate and maximum bandwidth for the video stream provided by the body camera. The microphone can also be enabled or disabled.



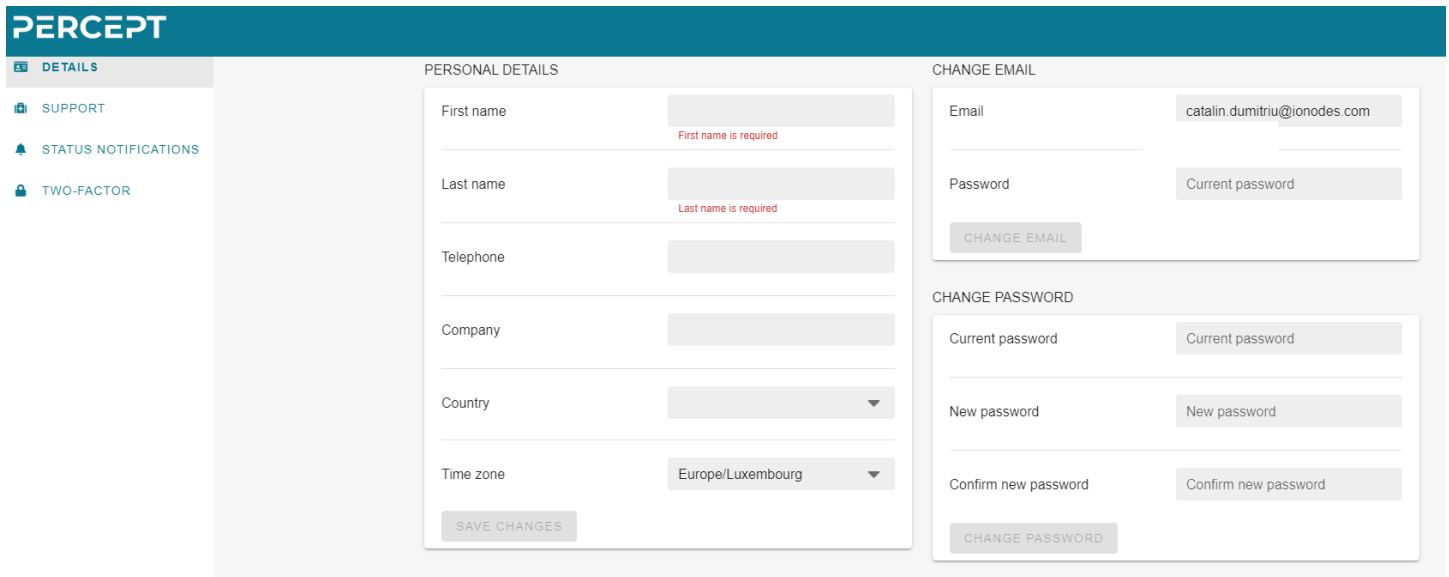
Note: The video settings above will be pushed by the PERCEPT Cloud to the first profile (i.e., "H.264_1") on the body camera. This profile is used for both live streaming, as well as recording. All other profiles on the body camera are not affected.

4.4.6 Account settings and cloud notifications

Clicking on "Account Settings" on the right top corner of the interface, will allow users to access the settings for their account.



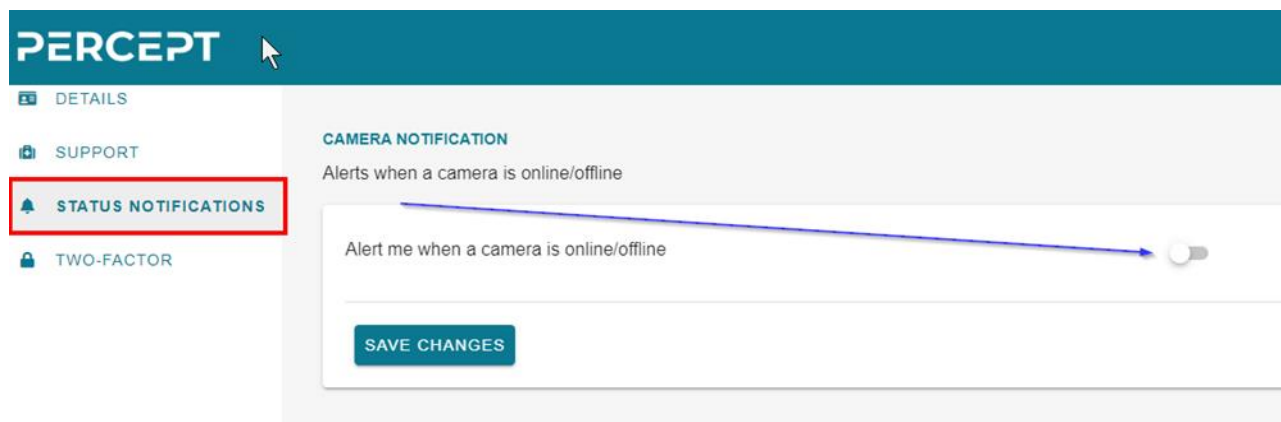
A new tab will be opened allowing users to access their account settings and configurations.



On the “Details” tab, users can edit their details, or change password.

From the “Support” tab, users can allow or restrict access for the support team to help remotely, for troubleshooting.

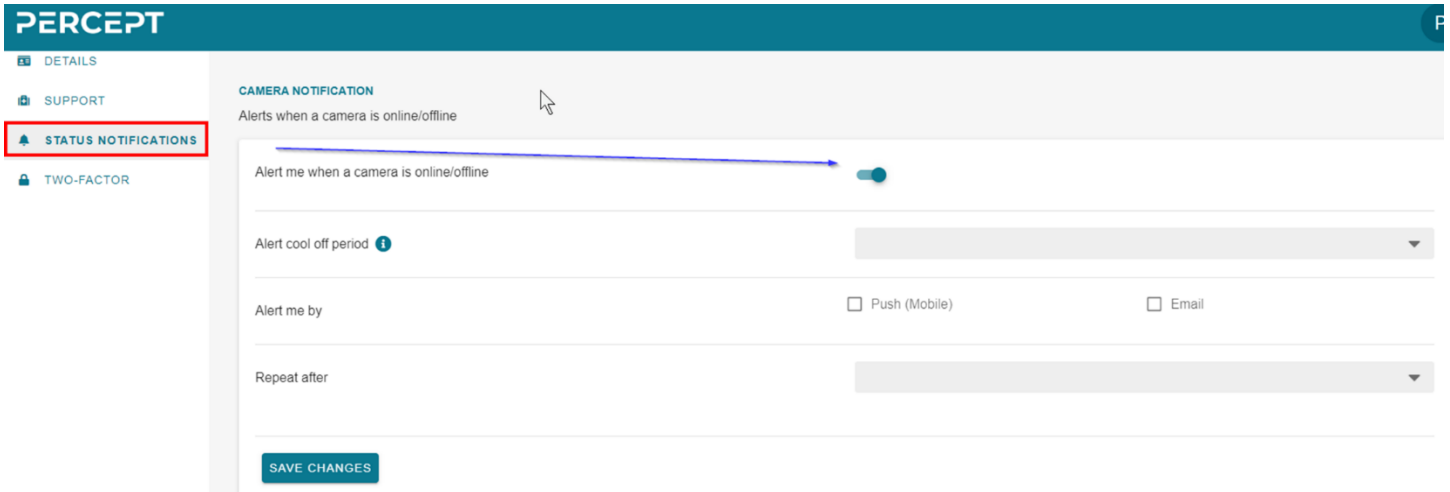
“Status Notifications”, allows users to activate or deactivate notification for the status of the cameras, switching from *online/offline*.



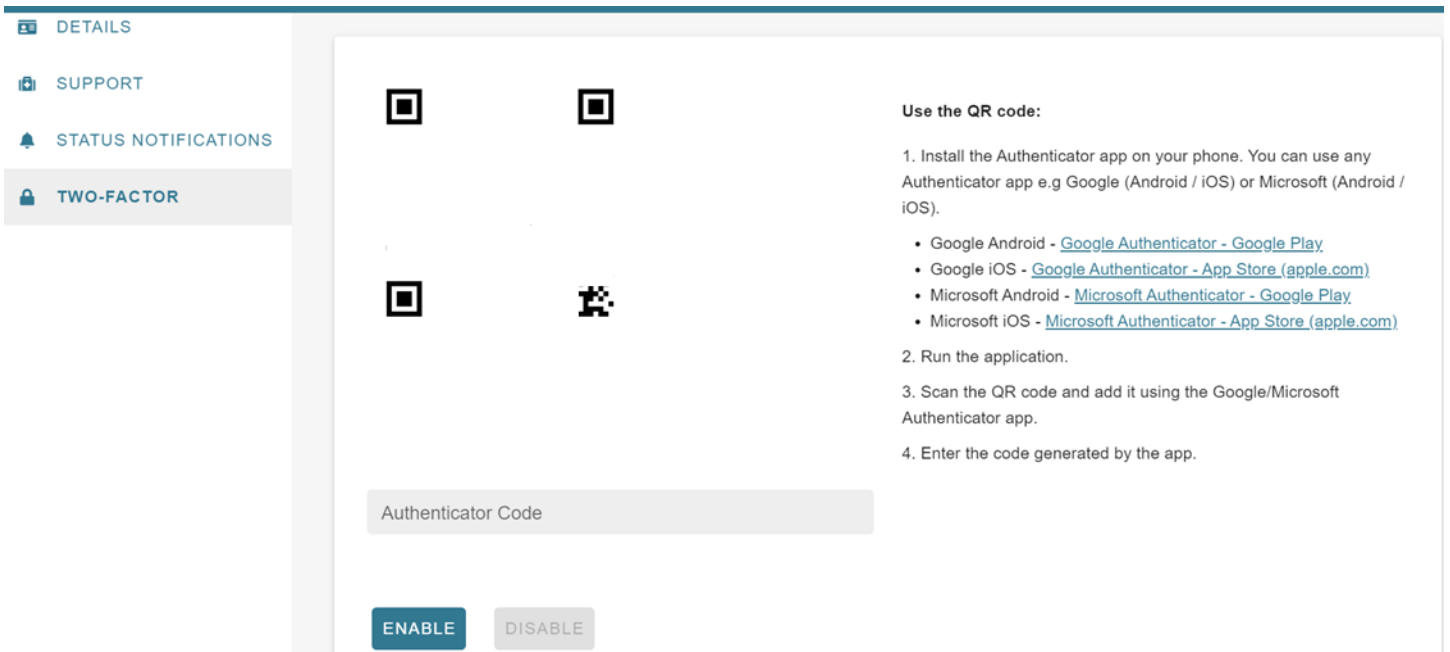
Alerts can be edited by different criteria:

Alert cool off period, which allows users not to be alerted.

Alert method can be by Push through mobile, or email.



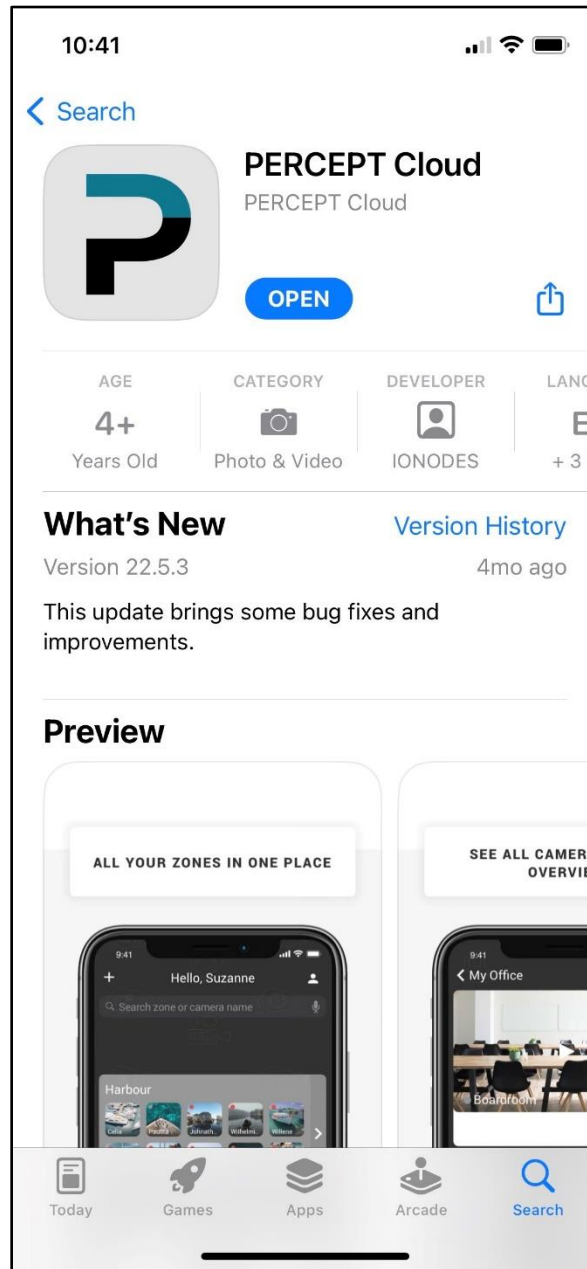
The “Two-factor” tab allows user to use different Authentication applications, for the two-factor authentication, on logging.



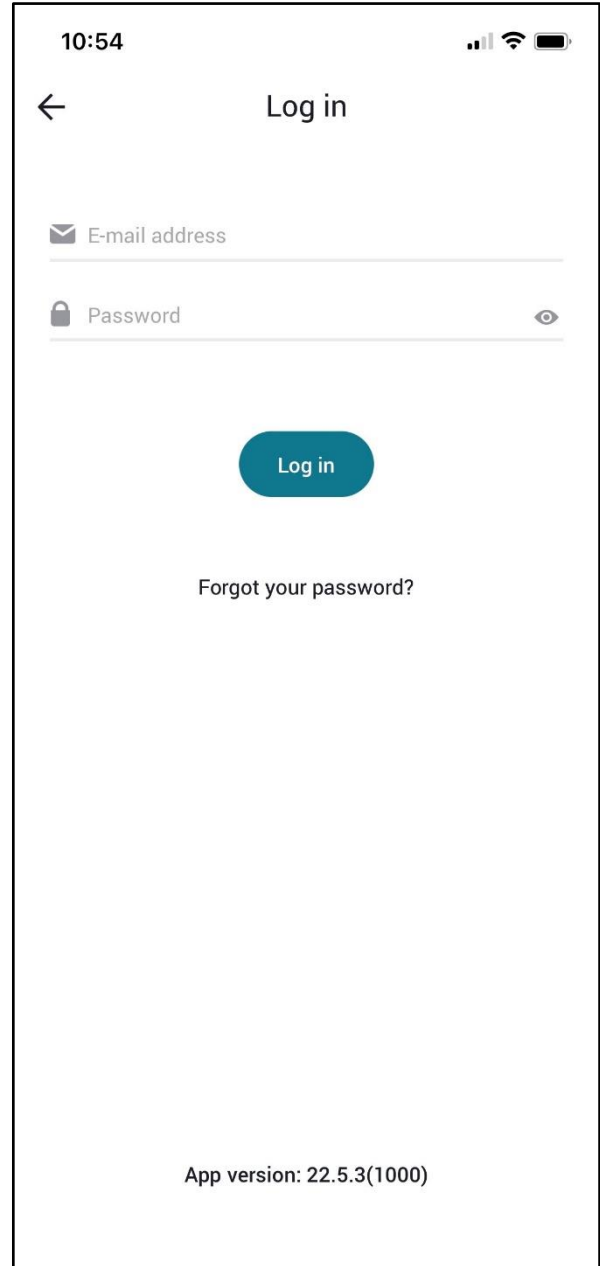
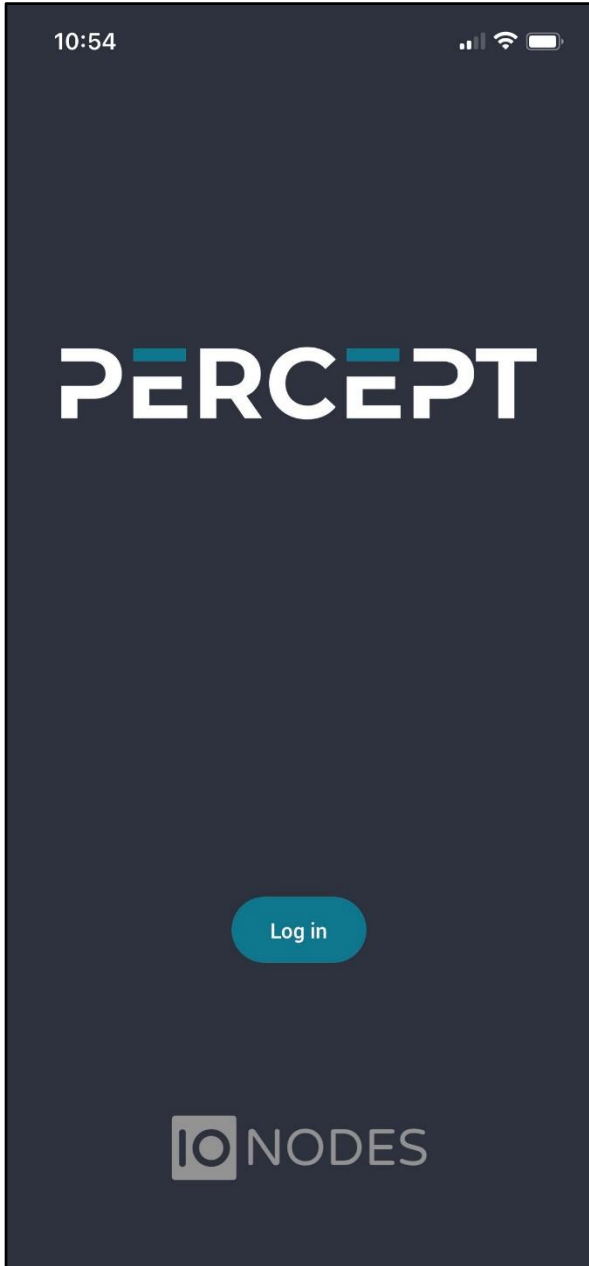
5 PERCEPT Cloud Mobile App

5.1 Access to the PERCEPT Cloud Mobile App

To connect via the mobile app, the user will first need to download and install the PERCEPT Cloud app from Google Play Store (for Android devices) or Apple App Store (for iOS devices).

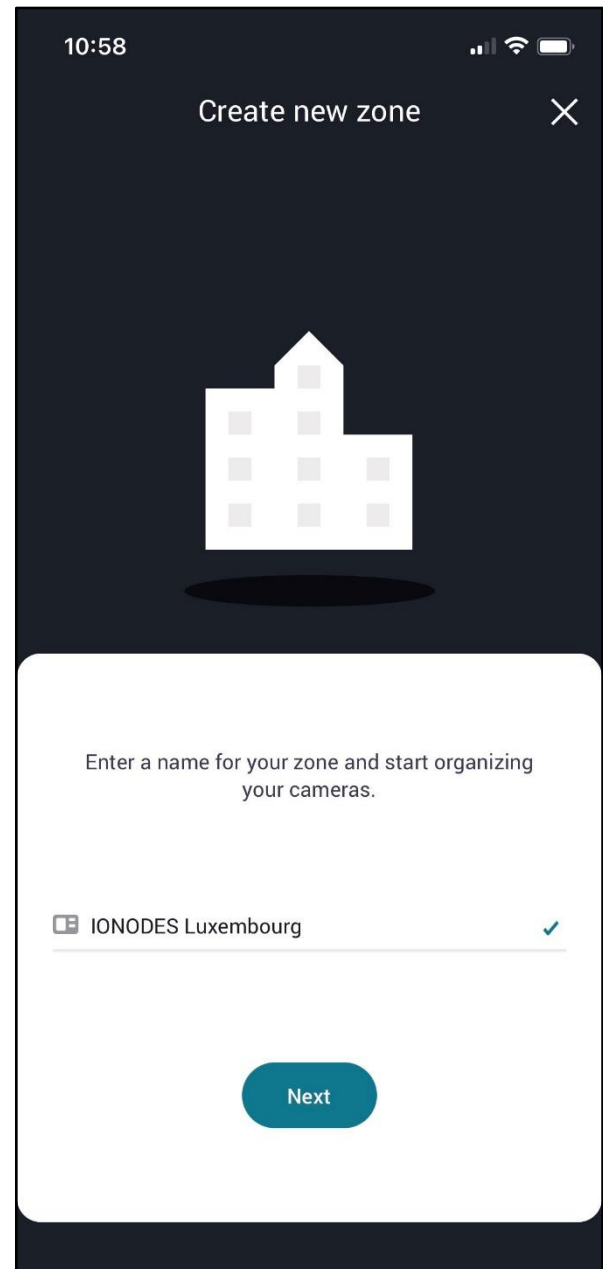


Once the user logs in, he/she will be able to save his/her credentials for the PERCEPT Cloud account directly to his/her device under the biometric authentication (if the device supports such a feature).

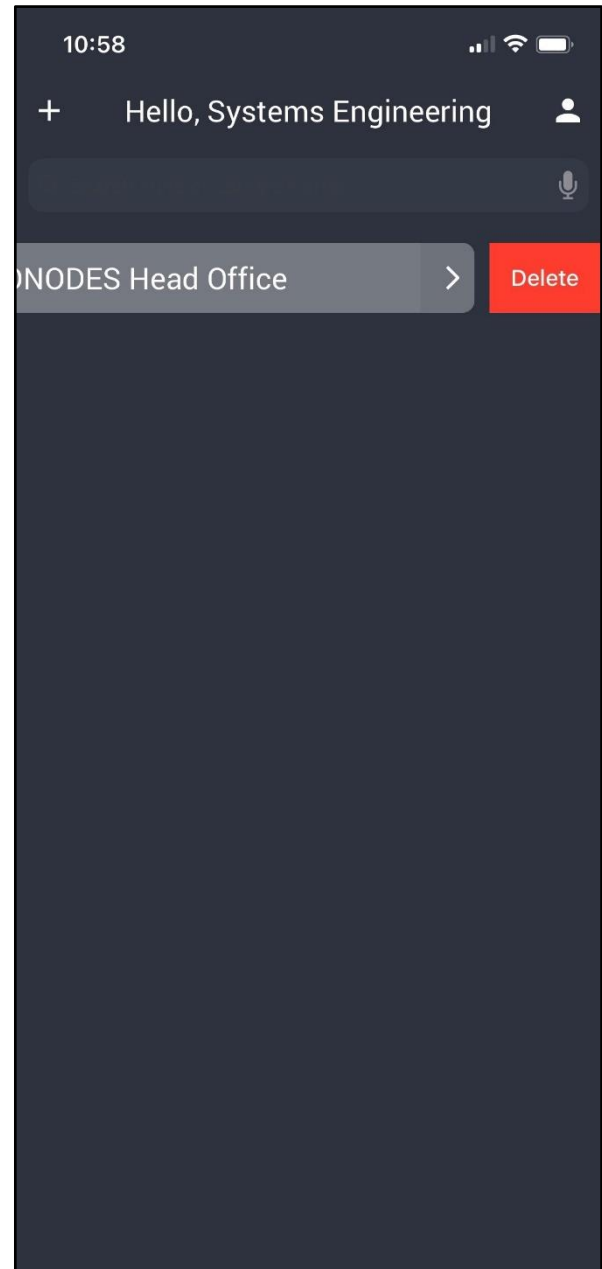


5.2 Adding a new camera

Once logged in, the user is presented with a dashboard that shows all configured *Zones* and the *Devices* that are associated with each zone. A *Zone* is a group of *Devices*. The grouping can be performed based on geographic location or other criteria (like same administrator/owner, same department, etc.). For adding a new *Zone*, the user will need to press the “+” button in the top left corner of the interface and then enter a name for the zone.

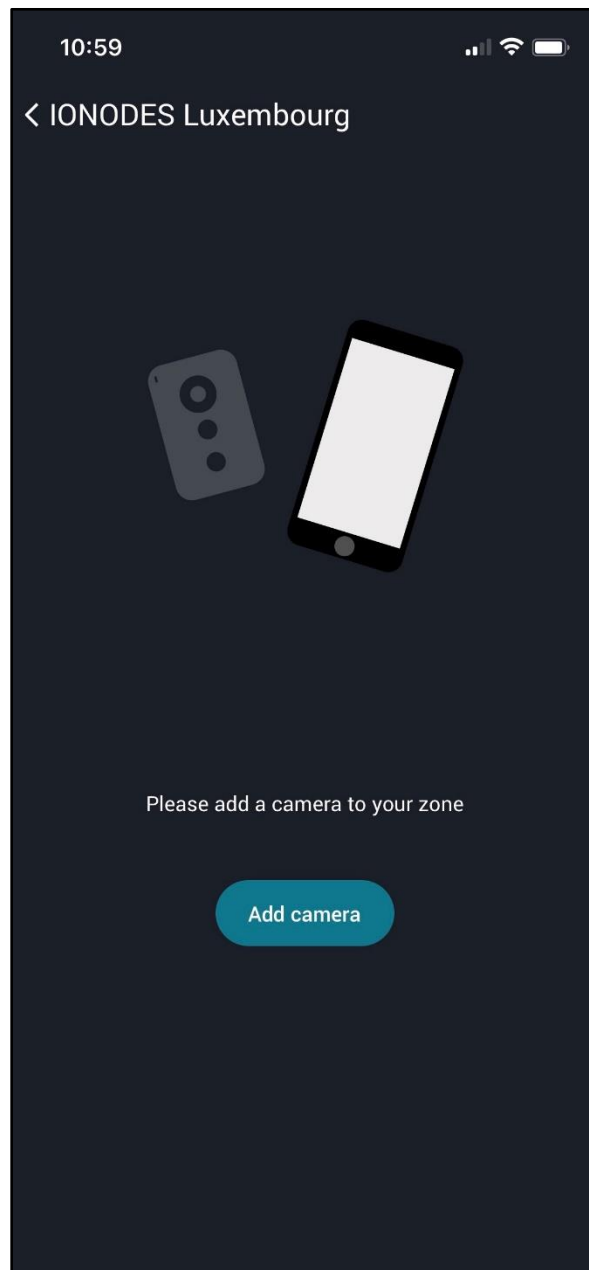


In order to remove a *Zone*, the user will need to swipe from left to right on the corresponding entry in the list of *Zones*, hit the “-” button and then confirm by pressing the “Delete” button that appears on the right side.

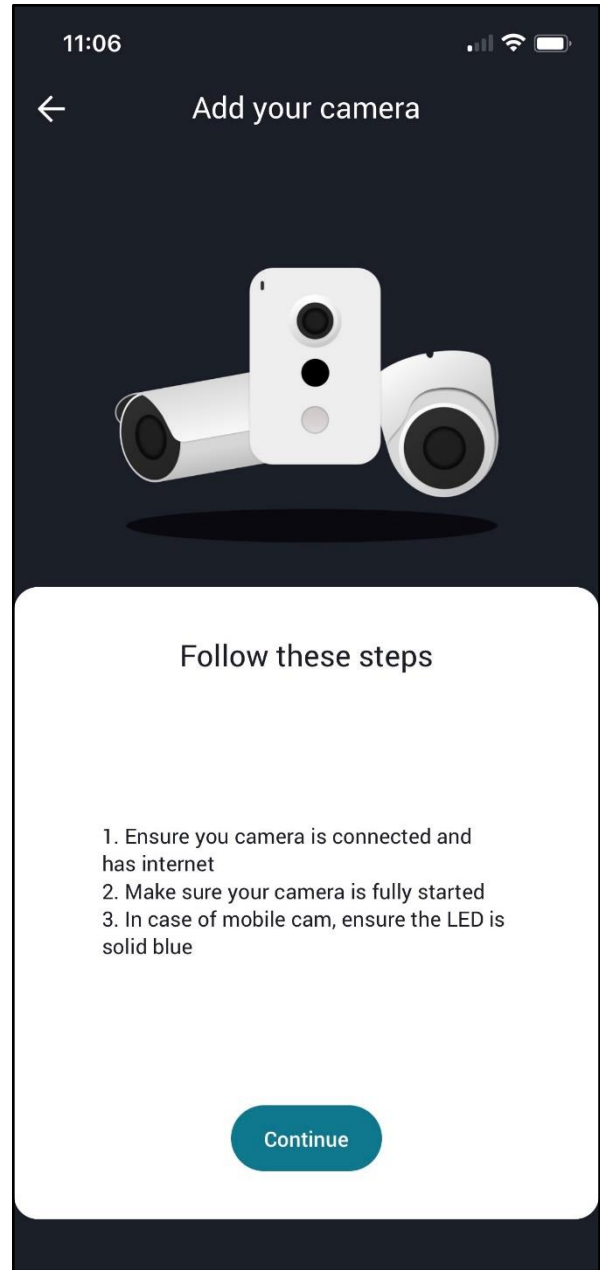
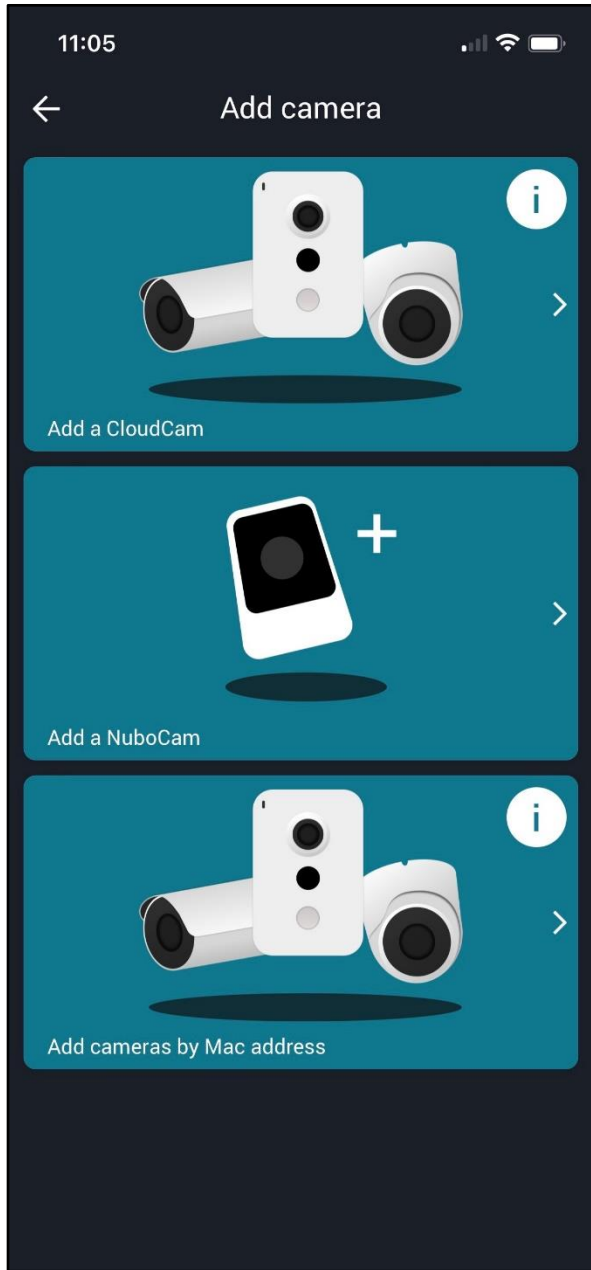


Note: A Zone can only be deleted if it is empty. If there are still cameras inside that Zone, the user will need to first delete the cameras before deleting the Zone.

Once the zone is created, the user can add cameras to it by clicking on the "Add camera" button.



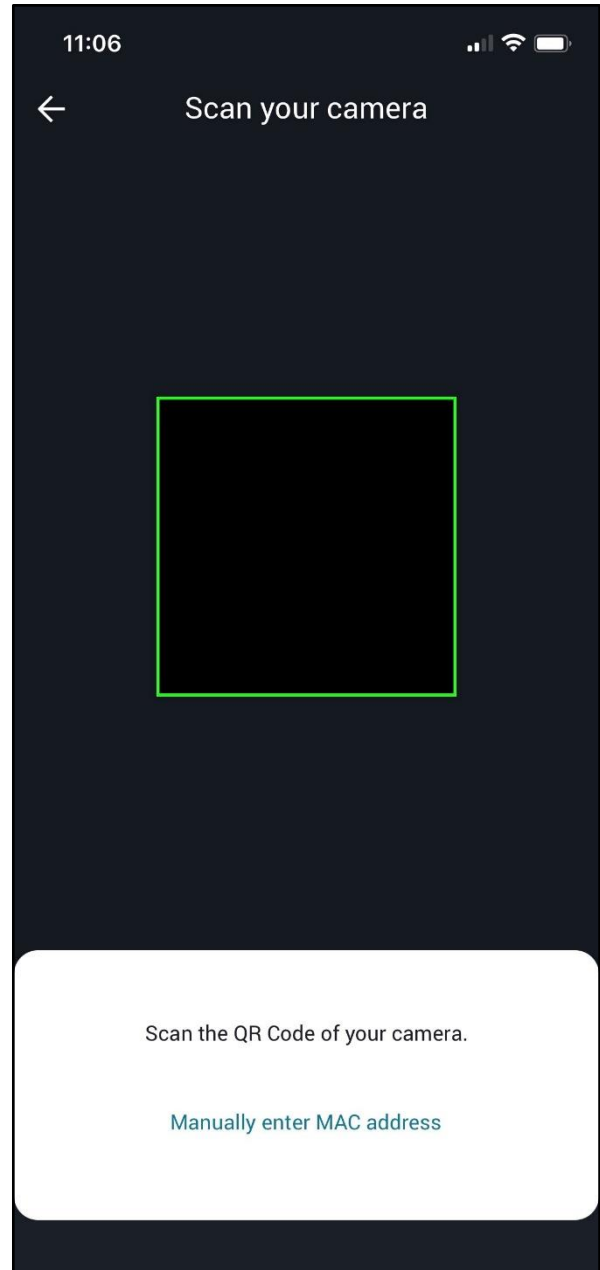
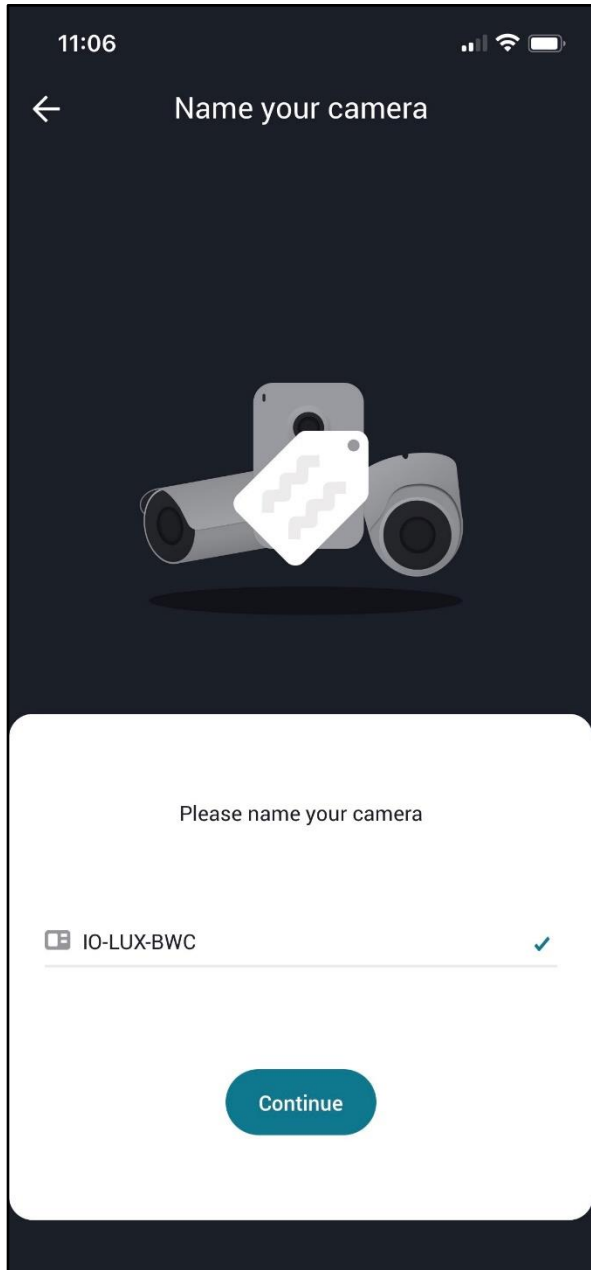
A step-by-step wizard will then guide the user to add his cameras to the current zone.



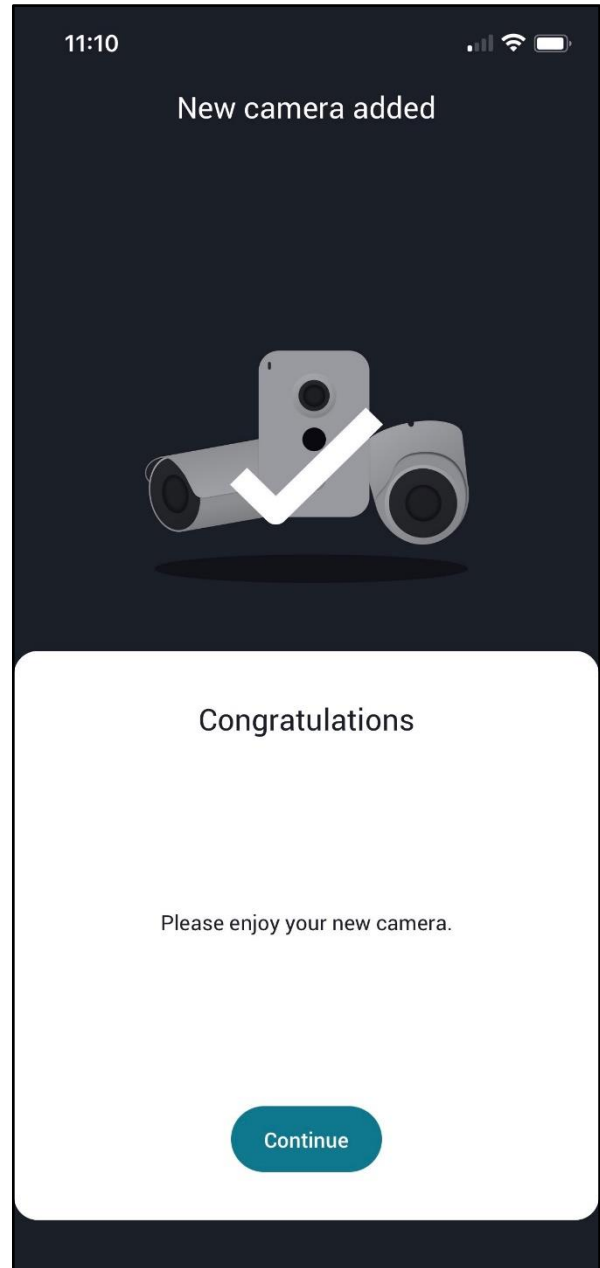
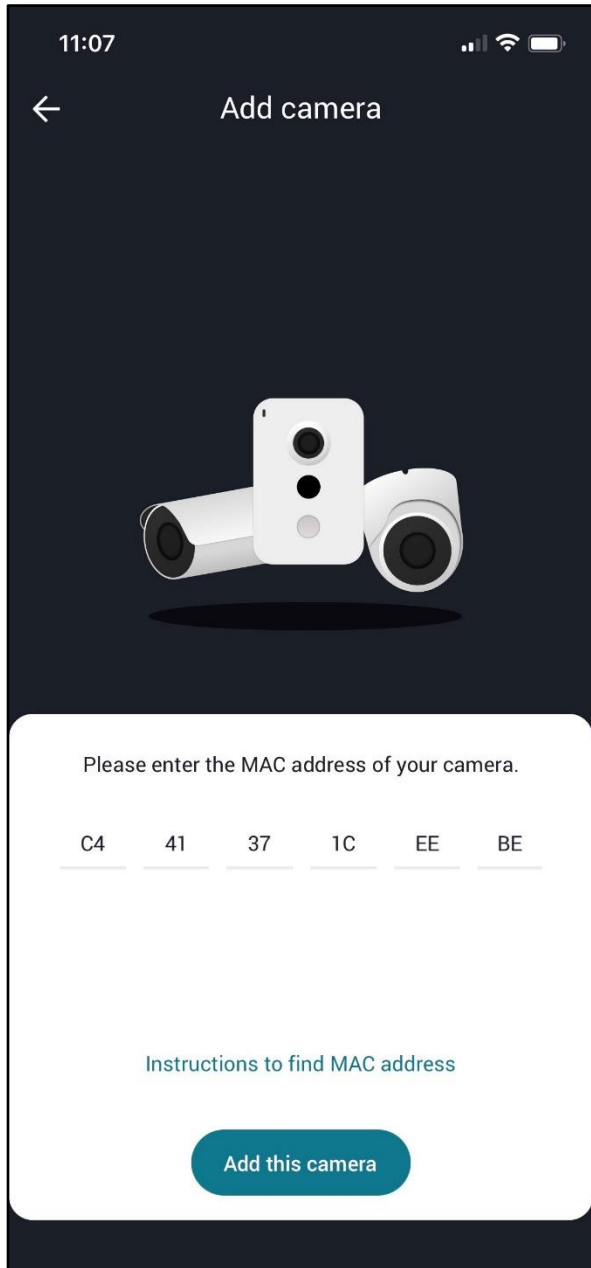
Choose “Add cameras by Mac address” and then hit Continue.

Note: Before adding the camera, please make sure that it is fully started, connected to the Internet and the PERCEPT Cloud Integration is enabled, as explained in chapter 3 of this guide.

Choose a name for the new camera and then choose the option “Manually enter MAC address”.

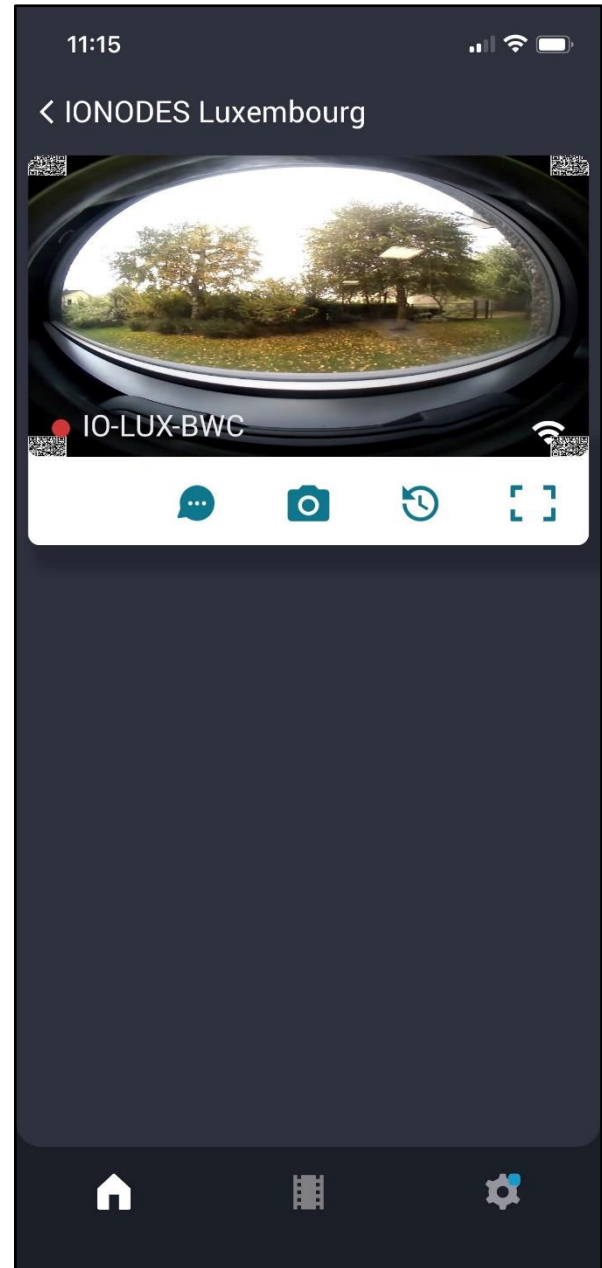
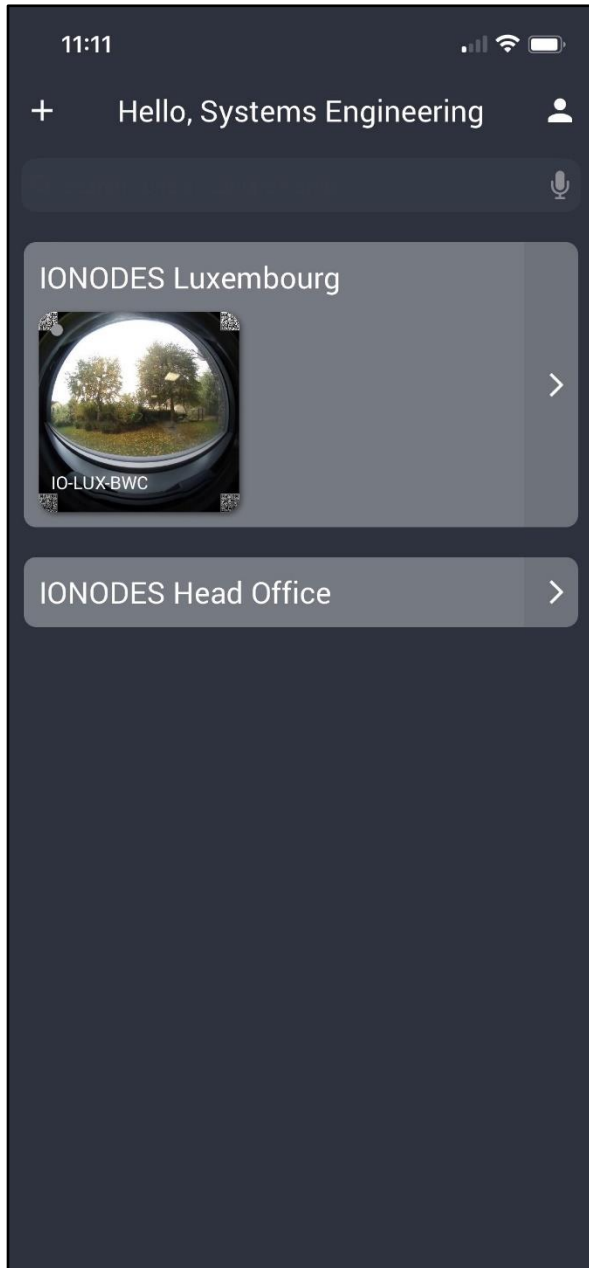


After entering the MAC address, press the "Add this camera" button and after a few seconds (if the communication to the Cloud is ok) the user should see a confirmation that his camera has been added successfully. Other cameras may be added using the same procedure.



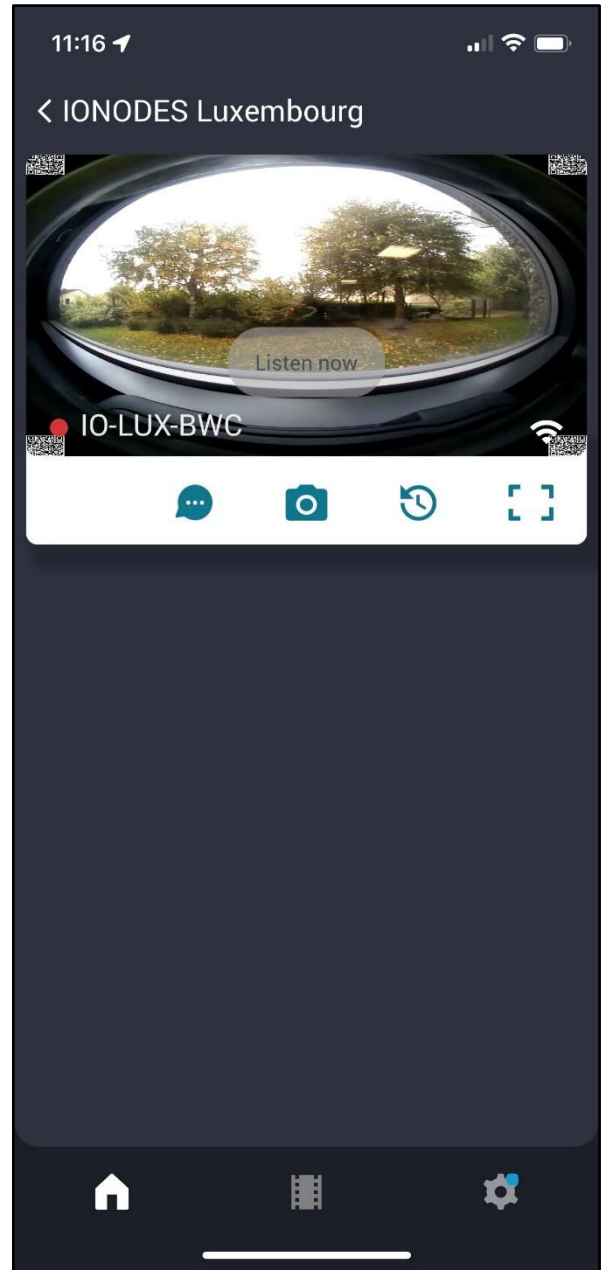
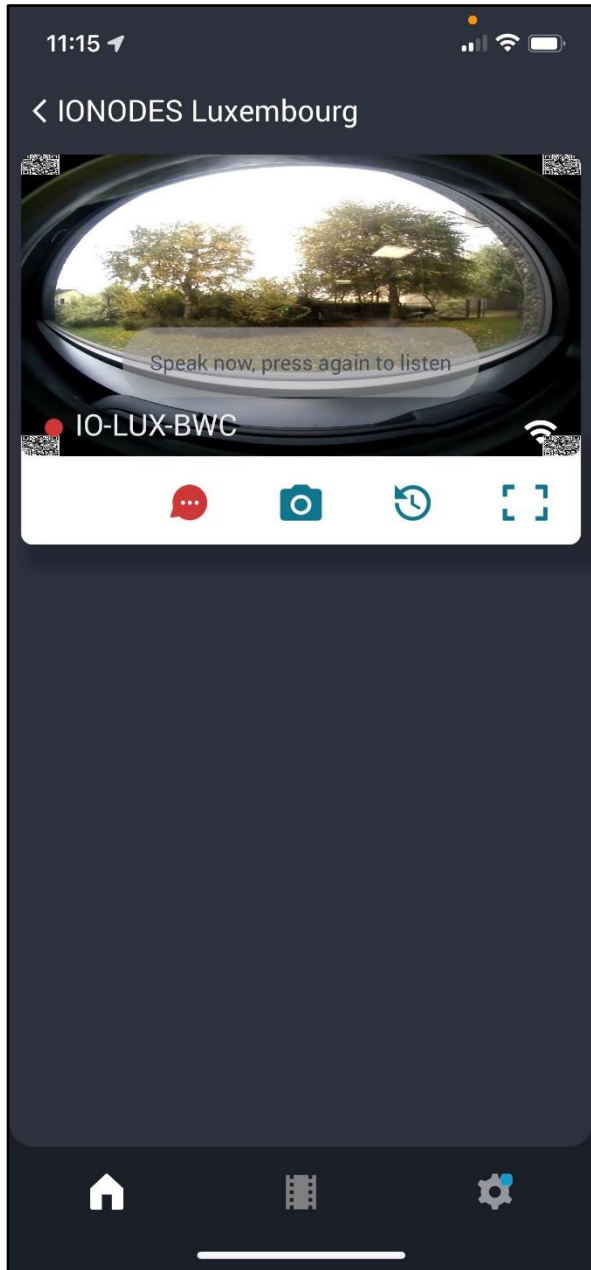
5.3 Viewing Live Video

From the main *Dashboard* section, the user can select a specific camera from one of the Zones. This will open a dedicated page where the user can view a *Live* video stream from the camera, take a *Snapshot*, view recorded *Footage*, or use the *Push-To-Talk* feature.




Note: The mobile app currently does not support image dewarping in the Live section. This can only be performed in the Web App.

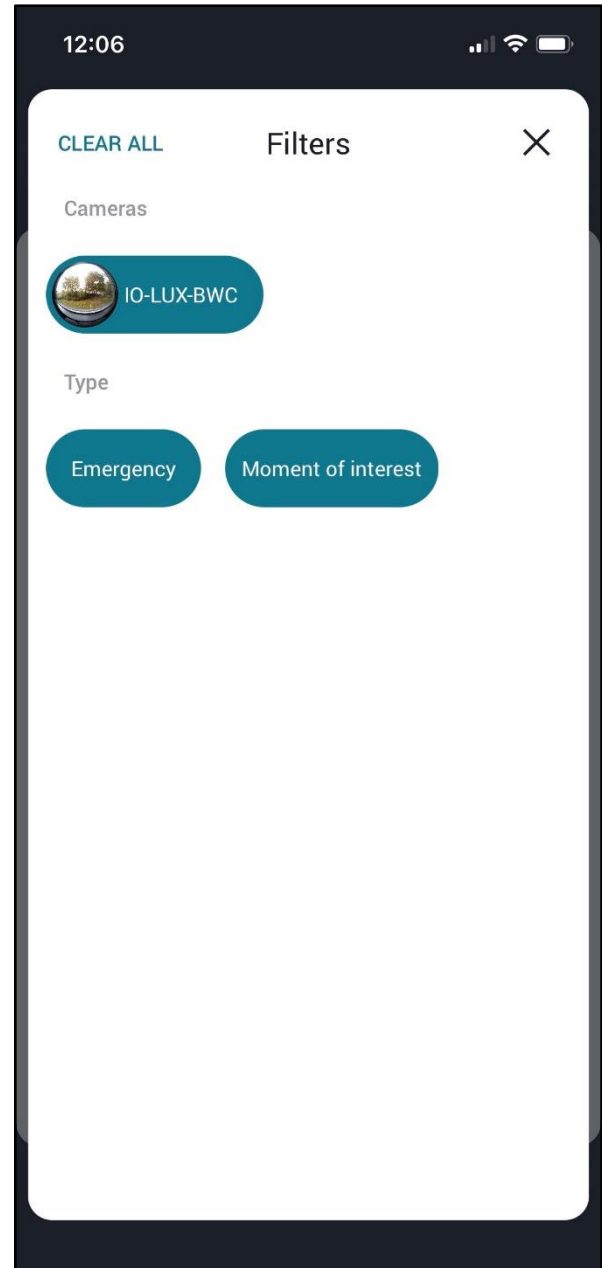
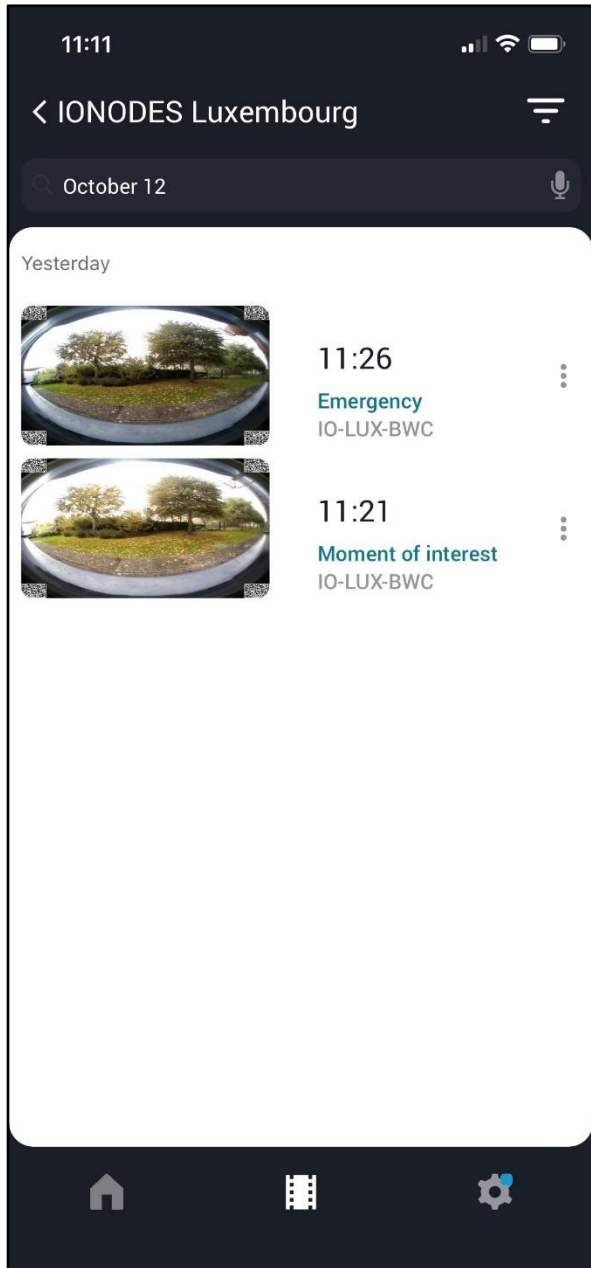
The *Push-To-Talk* functionality allows the person using the mobile app to talk to the person wearing the body camera (using the built-in microphone and speaker). Communication can only be initiated from the mobile app, and you cannot speak and listen at the same time.



Note: The microphone needs to be enabled on the body camera to be able to use the Push-To-Talk feature.

5.4 Events

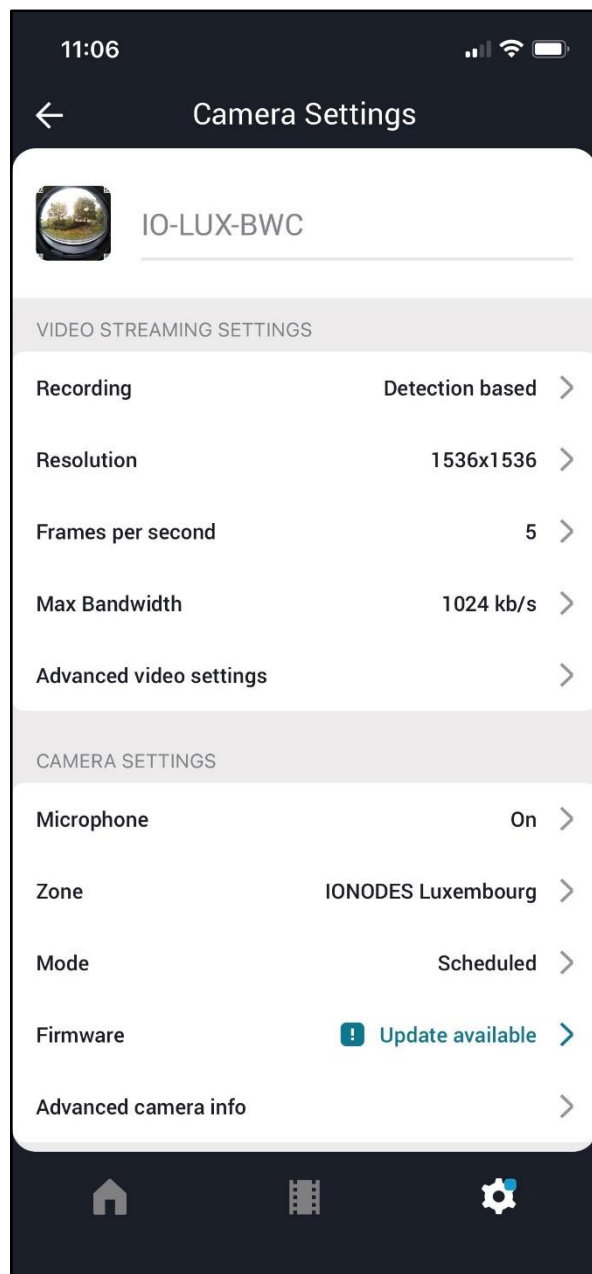
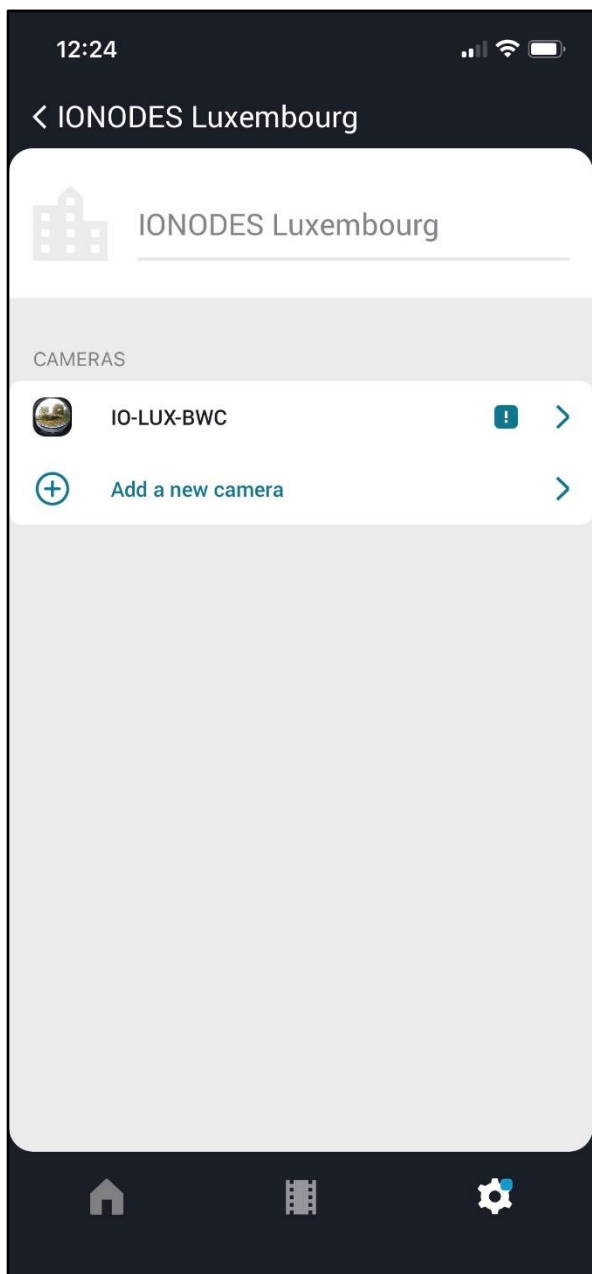
The *Events* section allows the user to search for a specific clip associated with an event, either based on the Date (within the search box at the top of the page) or based on Event Type or Camera (by pressing the Filter button  on the top right of the page).




Note: Searching for a specific date should be performed using the American date format *Month Day* (for example October 12).

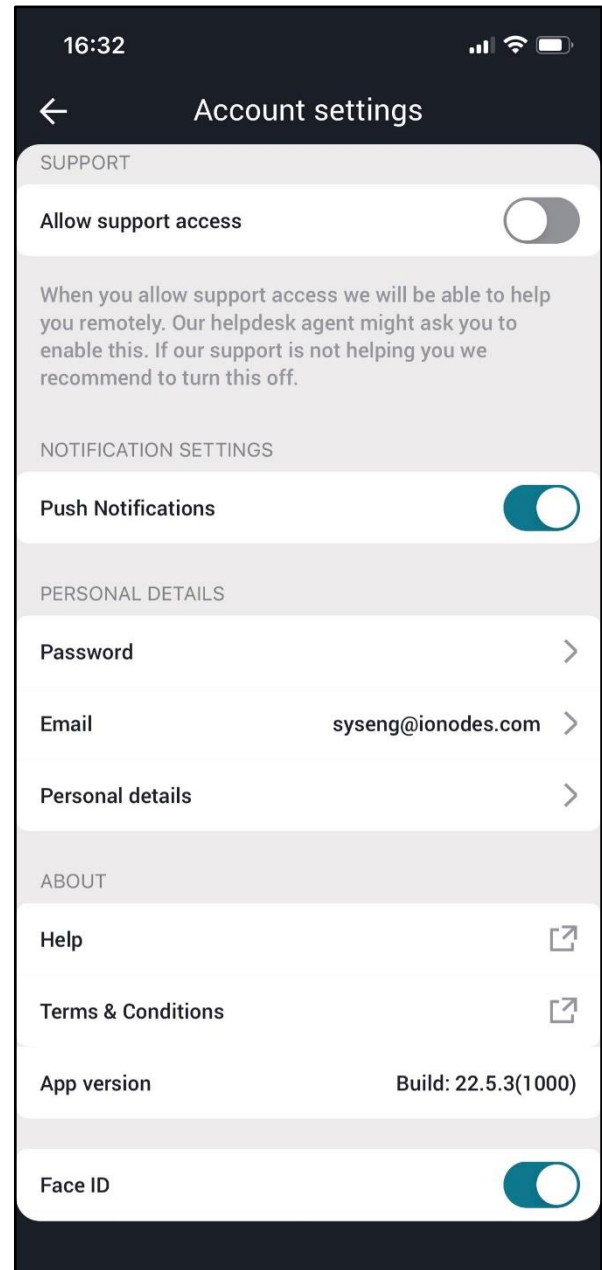
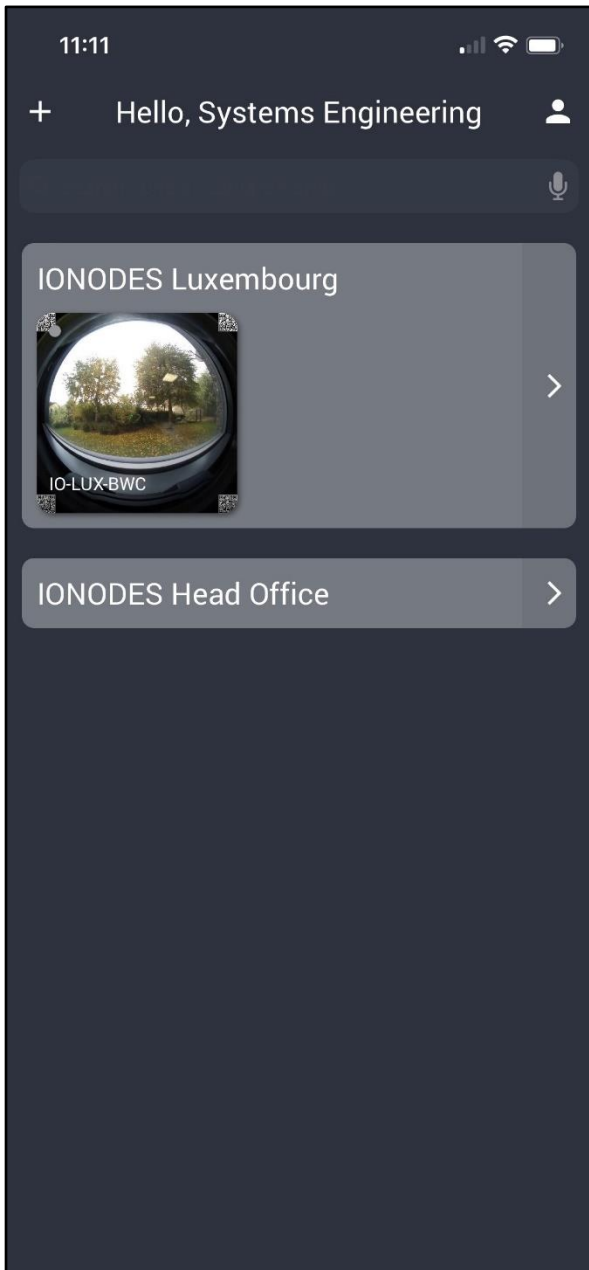
5.5 Managing Device Settings

The *Device Settings* section provides general information related to each device in the current zone and allows the user to change the video quality settings or perform a firmware update. For privacy reasons, the microphone can be turned off or the body camera (along with video streaming) can be disabled (by changing the current operating *Mode* to *Disarmed*).



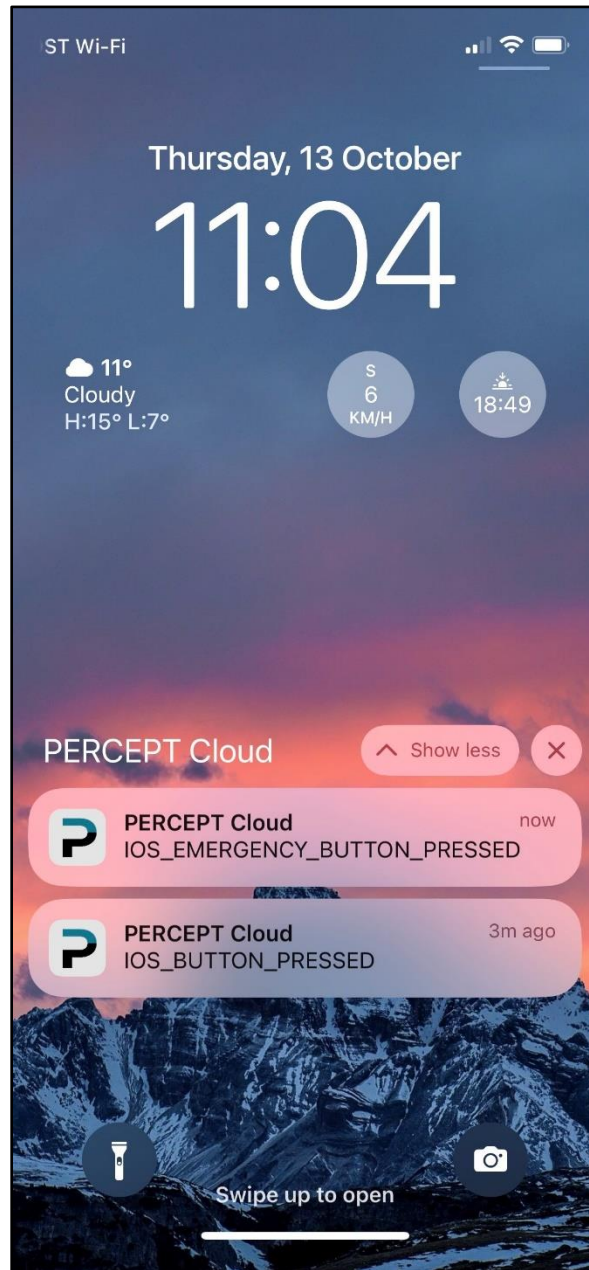
5.6 Changing User Account Settings

The Account Settings for the user that is currently logged in can be accessed by pressing the small icon  next to the user's name on the main Dashboard screen. From this page the user can enable Push Notifications, change his personal details & password, or enable the biometric authentication (in this example Face ID is used).



5.7 Smartphone Notifications

If the camera’s Mode is Armed (Recording On & Notifications On) and the Push Notifications are enabled, each time an event is triggered, the user will receive a push notification on his smartphone, provided of course the body camera is connected to PERCEPT Cloud, PERCEPT Cloud Mobile App is installed on the smartphone and the user is logged into his account.



Note: An “Emergency” event will generate an “EMERGENCY_BUTTON_PRESSED” notification, while a Moment of Interest event will result in a “BUTTON_PRESSED” notification.

6 PERCEPT cloud Troubleshooting

6.1 Camera Manager Firewall Guide

The Cloud platform is specifically designed to be highly secure and only uses utilizes TCP and UDP connections. If you restrict outbound connections on your local firewall, here is the IPv4 and port information you will need.

TCP 80 - Used to discover video termination endpoints in the cloud.

TCP 443 - Used to discover video termination endpoints in the cloud.

TCP 554 - Used for PnP1 video transmission of old PnP1 cameras.

TCP 1080 - Used for PnP1 data connection of old PnP1 cameras.

TCP 8181 - Used to transfer video to the cloud.

TCP 8282 - Used to transfer video to the cloud.

TCP 5448 - Used for transmission of motion events of old cameras.

TCP 1935 - Used for RTMP of old cameras.

TCP 25 - Used for SMTP event transmission of old PnP1 cameras.

UDP 50000-51000 - RTP port range.

Generally, you do **not** need to set up NAT rule.

6.2 Camera Manager FAQ

6.2.1 Installed a new router, and cameras are offline.

Normally when you get another router, you will get another global IP.

First you will have to be connected to the same network as the cameras. To find your new global IP, go to an IP lookup website: <https://www.ping.eu/>.

Now that you know your new Global IP, log in to Camera Manager and open the Networks tab of the camera(s).

Press the "Shift" key on your keyboard and double click on the "Camera IP Address and Port" line.

Change the "IP Address" not the Local IP Address, to the new Global IP.

You will need the MAC addresses of the cameras.

6.2.2 Can't find the camera in the Camera Finder.

In some cases, the camera isn't connected to the same network as the device you are using. Ensure the camera is on the same network. Check if there is a firewall on your device.

Windows

Open Windows Firewall by clicking the Start button, go to Control Panel, click Security, then Windows Firewall. Turn Windows Firewall off.

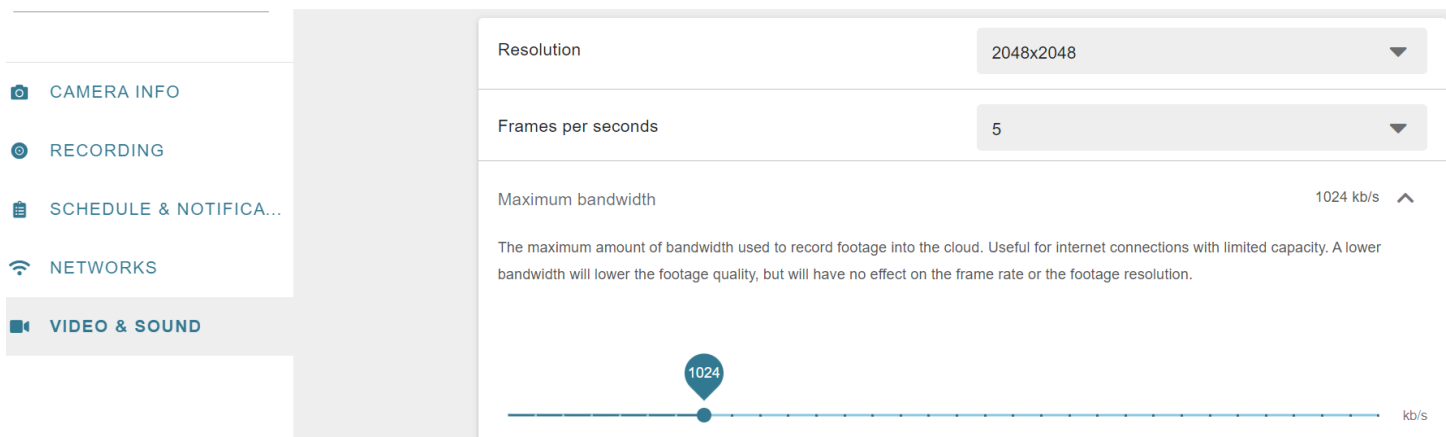
MAC

Click on the Apple menu from your toolbar. Select System Preferences. Choose View, then select Security. When the System Preferences window appears on your screen click on the Firewall tab. Select Stop to disable your firewall.

6.2.3 How to control the bandwidth that camera is using?

With bit rate control you can easily restrict the amount of bandwidth used by a camera. If you have many devices on your network, or a limited amount of bandwidth, you can restrict your camera to a specified amount, between 128 and 4096 kb/s.

- Go to Dashboard.
- Select the camera settings.
- Go to *Video & Sound* settings.



The screenshot displays the 'VIDEO & SOUND' settings for a camera. On the left, a sidebar lists navigation options: CAMERA INFO, RECORDING, SCHEDULE & NOTIFICA..., NETWORKS, and VIDEO & SOUND (which is highlighted). The main content area shows three settings: Resolution set to 2048x2048, Frames per seconds set to 5, and Maximum bandwidth set to 1024 kb/s. Below the Maximum bandwidth setting, there is a descriptive text: 'The maximum amount of bandwidth used to record footage into the cloud. Useful for internet connections with limited capacity. A lower bandwidth will lower the footage quality, but will have no effect on the frame rate or the footage resolution.' At the bottom, a horizontal slider is visible with a blue dot and a callout bubble indicating the current value of 1024 kb/s.

- Underneath the *Maximum bandwidth*, click on the beam to set a maximum bandwidth.