BlueMesh Commissioning

User manual

October 2024 BMN-200 rev. 2.22



blueMesh

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1. Introduction

BlueMesh Commissioning is a set of software tools that allows commissioning agents, contractors, installers and facility managers to configure, control and manage commercial lighting infrastructures based on qualified Bluetooth mesh.

BlueMesh Commissioning consists of two elements:

- The BlueMesh web app¹, which is used **off site** to manage lighting installation projects and plan commissioning, including mapping zones within a building, setting up profiles for zones and managing users collaborating on the project. The app supports English, French, German, Spanish, Finnish, Simplified Chinese, Traditional Chinese, and Korean (customizable in the web app). To start with BlueMesh Commissioning, create an account in our web app.
- The BlueMesh mobile app (for <u>iOS/iPadOS</u> and <u>Android</u>)², which is used <u>on site</u> to commission the devices with the commissioning plan set up earlier in the BlueMesh web app. The BlueMesh mobile app for iOS/iPadOS has the basic features for managing a project, so it can also be used to perform finetuning of a large project or the commissioning of small projects. The BlueMesh mobile app for iOS/iPadOS also allows <u>commissioning without using the web app</u>. But using this method for commissioning offers fewer options than when you initially create a commissioning plan in the web app. The app supports English, French, German, Spanish, Finnish, Simplified Chinese, Traditional Chinese, and Korean (customizable in the app settings on your mobile device).

This document describes how to use the BlueMesh web and mobile apps for commissioning, i.e.:

- Create an account and sign in.
- Create a commissioning plan with the BlueMesh web app.
- Commission the installed system with the BlueMesh mobile app.

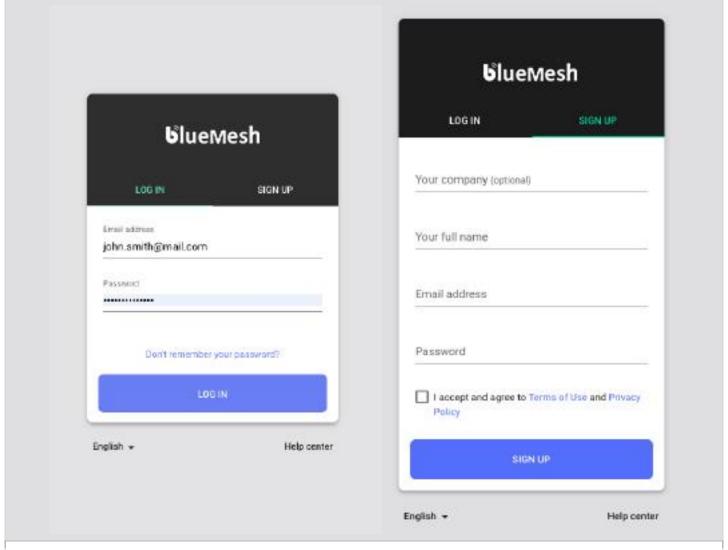
¹ The BlueMesh web app requires the Chrome browser (other browsers are not supported) and an internet connection.

² The BlueMesh mobile app requires an iOS/iPadOS or Android operating system (BlueMesh supports the two most recent versions of iOS/iPadOS and the three most recent versions of Android), Bluetooth enabled, and an internet connection - minimum 3G (WiFi or cellular).



2. Creating a commissioning plan

Log in and sign up



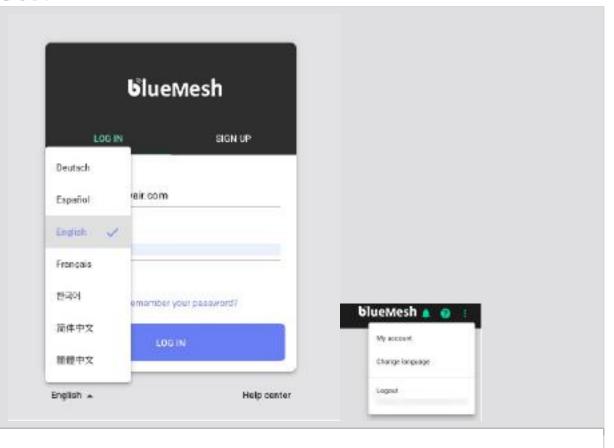
For new users: visit BlueMesh web app <u>platform.BlueMesh.us</u> and create a new account. To do it, open the "SIGN UP" tab and enter your details. Accept the terms of use and privacy policy and click "SIGN UP".

If you are an existing user, go to the BlueMesh web app at <u>platform.BlueMesh.us</u>, open the "LOG IN" tab, enter your registration email address and password and press the "LOG IN" button.

NOTE: User account will be blocked after 10 unsuccessful login attempts. You will receive an email about suspicious activity on the account from reply@BlueMesh.us.

To unlock the account, reset the password using "Don't remember your password?" link.

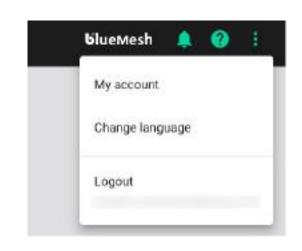




The web app supports eight languages: English, German, French, Spanish, Korean, Finnish, traditional Chinese, and simplified Chinese. To change the language:

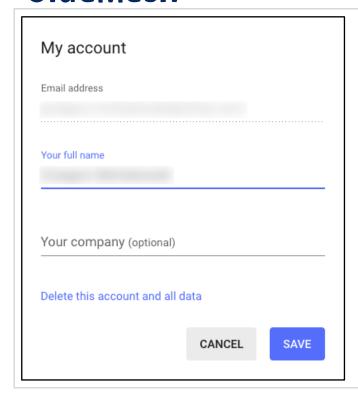
- on the log in and sign up screen, press the current language
- inside the app, press and select "Change language".

Edit or delete the account



In the web app or the iOS/iPadOS mobile app, select and then "My account".





In the respective fields, edit your full name or your company name.

To delete your account, select "Delete this account and all data". If you confirm the deletion, your account and all data will be removed after 30 days. However, if you log in within these 30 days again, you will be asked if you want to "Cancel deletion" in case you changed your mind.

Create a project

Your lighting systems are organized into projects that can represent areas as large as a whole building, or as small as a single room. Each project is a separate Bluetooth mesh network.

Sign in and click + to create a project.

My projects

Sout by
Name

Project A

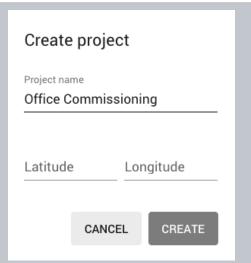
Orested on: Nov 30, 2022

Your role: Owner

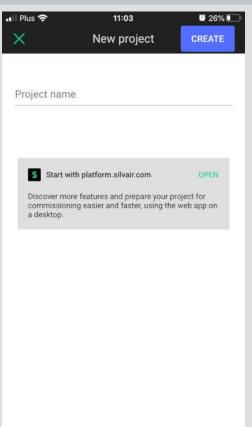
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- Enter the project name
- Enter Latitude and Longitude of the place where the project will / is used
 - O This step is **not** mandatory
 - It is used for extended services that require using gateway
- Press "CREATE" to confirm
- You will see your new project appear in the list
- Projects are sorted by the creation date, from the newest to the oldest



When you start creating the project with the mobile app, the information about the desktop web app will be displayed. Tap "Open" to share the URL to the browser/email.



NOTE: By default, the user who creates the project becomes its owner and is marked as such on the collaborators list (see: <u>Invite and manage project collaborators</u>)



NOTE: A project represents a single mesh network, so any devices added to this project will automatically be part of the same network.



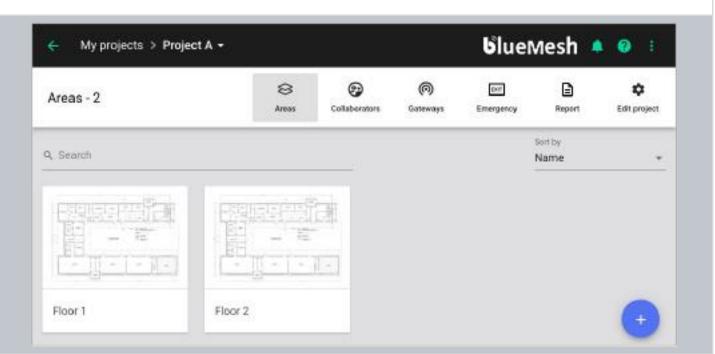
Create an area

Create areas in your projects. This will allow you to add various zones to the plan and locate them in the building.

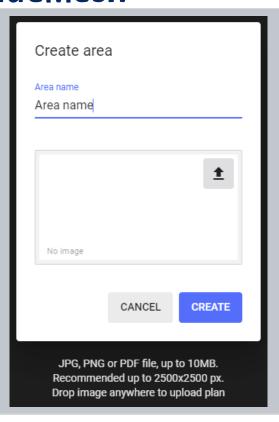


IMPORTANT: Ensure that every area within a project can communicate with each other. If an area would be separated from other areas, create an additional project dedicated only for that area instead.

• Every commissioning plan must have at least one area. Open the project, and click + to create an area.



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- Add a plan image by clicking on "SELECT IMAGE".
- Select the image you want to use, it must be a JPG, PNG, or PDF file up to 10 MB.
- Enter the area name.
- Click "CREATE" to save the area.

HINT: You can drag the image anywhere on the screen to upload the plan.

Edit an area



- 1. Open the project with the area you want to edit.
- 2. Click and select **Edit**.

HINT: The menu allows you to edit the selected plan, or remove the area.

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In this panel you can:

- edit the area name
- rotate or replace the image

You can also replace the plan by dragging an image file from your computer onto the existing plan.

Zones

Devices (fixtures, drivers, sensors, or switches) commissioned using the BlueMesh mobile app are organized into zones. A zone is a group of devices that operate with a selected profile. It doesn't have to be a physical space (e.g. a room) as a room may contain one or more zones, e.g. multiple daylight zones.

The BlueMesh web and mobile apps are synced, so any progress or problems that occur during commissioning are reflected in both interfaces.

A zone is represented on the area with a circular icon which changes color depending on its status:

+	DRAFT — when a zone has been created but the profile has not been selected ³
•	READY TO BE COMMISSIONED — when the profile has been selected and the zone is ready to be commissioned on site (with the BlueMesh mobile app).
\odot	COMMISSIONED — when devices in the zone have been commissioned: devices have been added and configured correctly.
(!)	WARNING — when the zone has been commissioned but requires attention or action, e.g. some devices are missing or were not configured properly.

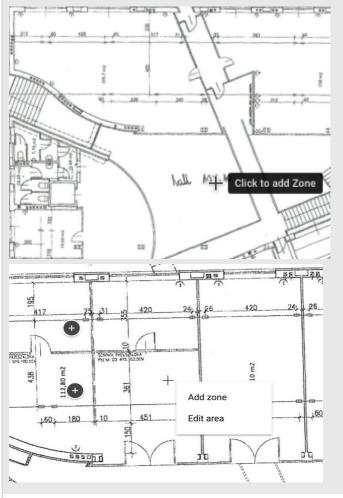
³ DRAFT zones are only available in the BlueMesh web app.



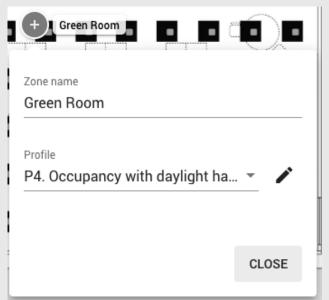
See details about errors and warnings in the **Commissioning alerts: errors and warnings** section.



Create a zone



- Navigate to the area view, left click on the floor-plan in a place where you want the zone to be created and add zone.
- You can also right-click on the floorplan and select "Add zone" from the dropdown.



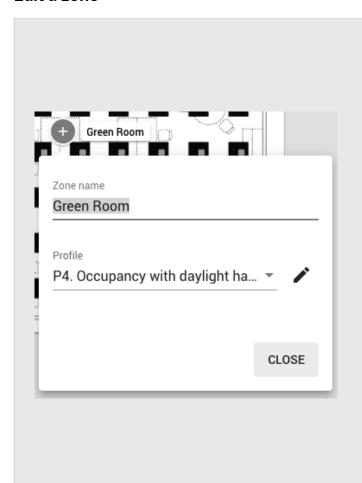
- The zone edition window opens. The default name is "Zone" and it will have no profile assigned.
- NOTE: If you don't make any changes to the zone (you do not add a zone name or select a profile), it will not be created. To save the zone - change the zone name, and add a profile. These actions are automatically saved.



NOTE: You can create multiple zones and edit their settings later. Don't forget to add zone names and assign profiles. Otherwise your zones will not be created.



Edit a zone



- Editing a zone can be done in two ways:
- Right-click the zone icon.
 - o Press "EDIT" button
 - Enter a name, e.g. Conference
 Room, select the desired profile
 e.g. Occupancy.
 - Click the pencil button to the right of the PROFILE to start editing profile settings.
 - O Click "CLOSE" to save the changes.
- Left click the zone icon.

NOTE: This would work only for a zone that has a Profile assigned.

- Change zone name, or select a different profile.
- Click the pencil button to the right of the profile name to start editing profile settings.
- O Click "CLOSE" to save the changes.

Duplicate a zone

To duplicate a zone, right-click an existing zone and select "Duplicate".

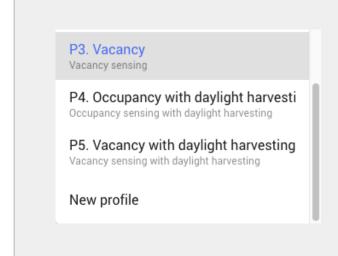
HINT: Alternatively, you can press the "Option" key on MacOS or "Alt" key on Windows/Linux and drag an existing zone.

The duplicated zone has the same control and energy profile as the original zone. The zone linking and devices are not copied.

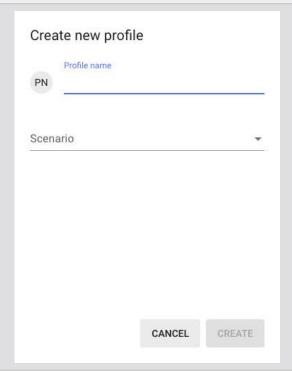


Profiles

BlueMesh Commissioning lets you set up profiles and each one can be customized as needed (see: <u>Customize a profile</u>). New profiles can also be created. Each zone must have an assigned profile in order to be commissioned. Profiles can be added when you <u>create</u> or <u>edit</u> a zone.



- After right-clicking on a zone from the floorplan view and selecting Edit, expand the list of available profiles. Under each profile there is a scenario label (this shows the scenario with which this profile operates).
- Select a profile. You can edit the profile settings later.
- At the bottom of the list there is an option that allows you to create a new profile, if none of the proposed profiles are good for you.



Creating a new profile

- Right-click on a zone from the floor-plan view and select Edit.
- Expand the list of available profiles, scroll down, and select "New Profile".
- Enter a profile name and select a scenario.
- Click "Create".

You can edit the profile by changing its settings to the desired values. For more details, check Customize a profile section.



NOTE: You can create separate profiles for different types of spaces, e.g. conference rooms can have a "Conference room" profile operating in the Vacancy with daylight harvesting scenario, while corridors can have a "Corridor" profile operating in the Occupancy with daylight harvesting scenario with different times and levels. Each profile can be assigned to the appropriate zones through a project. This approach allows light control behavior in similar spaces to be easily modified by customizing the profiles.

Regardless of the selected profile, you can define two scenes for each zone that are triggered with a wall switch (see: <u>Scenes setup</u>). For all profiles, the default light level and automatic mode can be restored manually by pressing the On/Auto key of the wall switch (see: <u>Using the EnOcean switch</u>).

The available scenarios assigned to the created profiles are:



Manual control

All luminaires in the zone are switched on manually to a defined light level, switched off and dimmed manually with a wall switch. After a power failure, the luminaires will be restored to the same level as before the power failure.

Vacancy sensing

All luminaires in the zone are switched on manually with a wall switch to the defined light level and switched off automatically when no motion is detected for a given time. The lights can also be dimmed and switched off manually with a wall switch, and this action will override automation.⁴ Automation will resume after the zone has been vacant for a given time (called *timeout* parameter).

Vacancy sensing with daylight harvesting

All luminaires in the zone are switched on manually with a wall switch to the defined light level and switched off automatically when no motion is detected for a given time, or there is sufficient daylight available to maintain the defined light level. The lights can also be dimmed and switched off manually with a wall switch, and this action will override automation. Automation will resume after the zone has been vacant for a given time (timeout).

Occupancy sensing

All luminaires are switched on automatically to the defined level when motion is detected and switched off automatically when no motion is detected for a given time. The lights can also be dimmed and switched off manually with a wall switch, and this action will override automation. Automation will resume automatically after the zone has been vacant for a given time (timeout).

Occupancy sensing with daylight harvesting

All luminaires are switched on automatically to the defined light level when motion is detected and switched off automatically when no motion is detected for a given time, or there is sufficient daylight available. The lights can also be dimmed and switched off manually with a wall switch and this action will override automation. Automation will resume automatically after the zone has been vacant for a given time (timeout).

Photocell

It is a scenario that allows you to control lighting depending on the level of ambient light and occupancy. The luminaries switch ON/OFF to the defined level depending on whether it gets dark or bright. The light level can adjust automatically to a defined level when it is occupied.

Multiple scenes

Is a scenario that allows you to set up 4 customizable scenes using the BlueMesh web app. You can set a separate name and different values for each scene depending on their properties, e.g. desired light levels and different timeouts for office working hours and outside of them, or appropriate light conditions for subsequent work shifts.

⁴ Manual control (e.g. wall switch) will override automatic control and the luminaires will no longer maintain the desired light level until the automatic control is restored.



The scenes can be triggered by:

- a) Pressing wall switch e.g. EnOcean switch (see EnOcean switch section)
- b) Scheduler feature which allows for an automatic scene recall at preset time, without manual control

NOTE: Multiple scenes scenario cannot be adjusted using the BlueMesh mobile app.

Central control, Central control for dual output

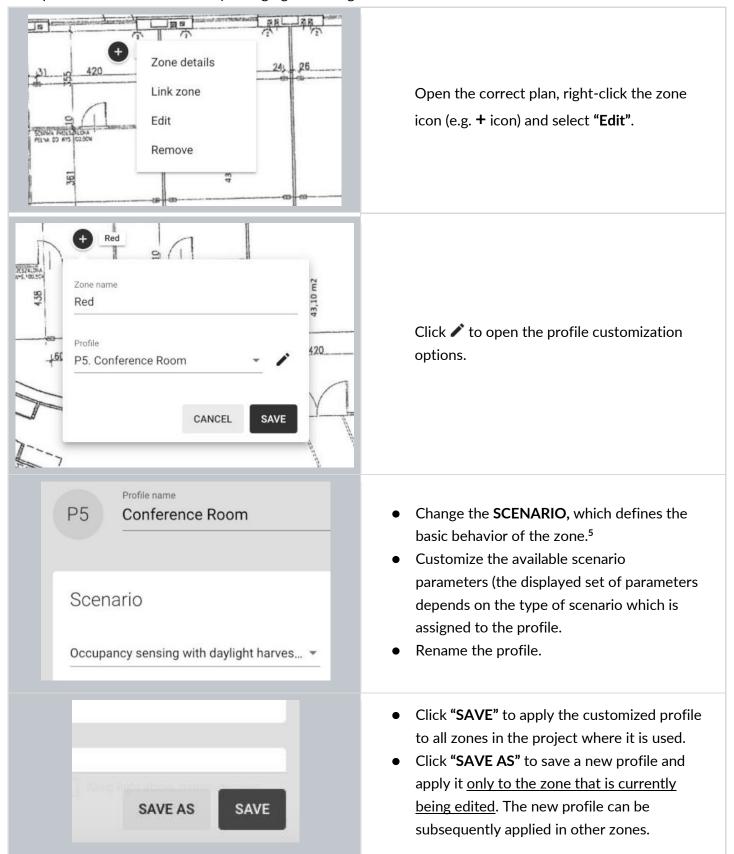
The Central control is used in spaces where all luminaires are controlled by a central controller that receives the data from sensors and switches. The central controller determines the appropriate light levels for all luminaires in a zone.

In the case of the Central control for dual output scenario, one group of devices is controlled centrally and the second is controlled locally.



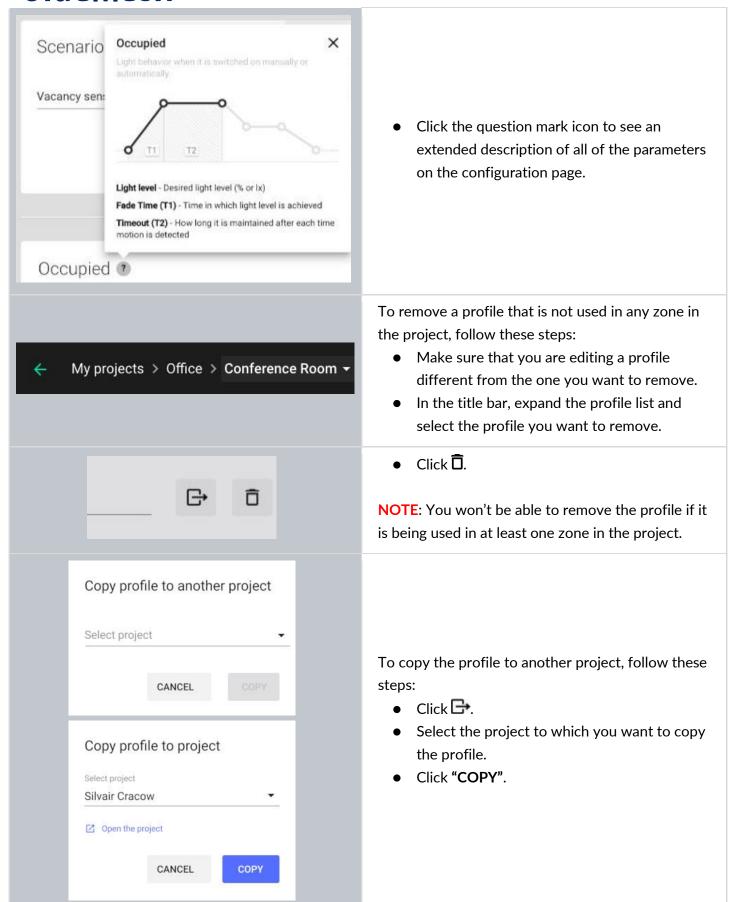
Customize a profile

Each profile can be customized by changing its settings to the desired values.



⁵ To avoid confusion, we recommend using the "New profile" option or changing the name of the edited profile.

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Scenario parameters for customization

Each profile has multiple parameters that can be changed to customize it to your needs. The parameters are set when adding a device, but can be also modified later. The available parameters depend on the Scenario, which is assigned to the profile. The parameters are described below.

Manual control scenario

General		
Default light level	Light level	Light level when turned on.
	Fade time	Time over which the default light level is reached.
Low/high-end trim	Min.	Minimum light level that can be reached with automatic or manual control (e.g. with a wall switch). If the light is set between 0% and the low-end trim, it will adjust to the low-end trim. NOTE: Even if the low-end trim is set to a value higher than 0%,
		 the device can still be switched off: Manually with a wall switch by pressing Off. Manually by setting the app slider to 0%. Automatically if automatic control would switch the light off in particular scenarios.
	Max.	Maximum light level that can be reached with automatic or manual control (e.g. with a wall switch). If the light is set between the high-end trim and 100%, it will adjust to the highend trim.
Power up behavior	Keep light off	Light remains off on power up.
	Restore	Light level and color temperature returns to the state before power failure.
Define	Defined light level	Light comes on at this light level on power up. Color temperature returns to the default.
Scenes		
Scene A	Light level (%)	Light level when switched on.
Scene B	Light level (%)	Light level when switched on.



Vacancy sensing and occupancy sensing scenarios

		General
Occupied	Light level	Light level when turned on.
	Timeout	Time for which the defined light level is maintained after turned on. The timer resets each time motion is detected.
	Fade time	Time over which the occupied mode light level is reached.
Prolonged	Light level	Light level to be maintained for a defined time after the occupied mode (occupancy) timeout.
	Timeout	Time for which the prolonged mode light level is maintained after the occupied mode timeout.
	Fade time	Time over which the prolonged mode light level is reached after the occupied mode timeout.
Vacant	Light level	Light level to be maintained for a defined time after the prolonged mode timeout. It can be a non-zero value.
	Fade time	Time over which the vacant mode light level is reached after the prolonged mode timeout.
Low/high-end trim	Min.	Minimum light level that can be reached with automatic or manual control (e.g. with a wall switch). If the light is set between 0% and the low-end trim, it will adjust to the low-end trim.
		 NOTE: Even if the low-end trim is set to a value higher than 0%, the device can still be switched off: Manually with a wall switch by pressing Off. Manually by setting the app slider to 0%. Automatically if automatic control would switch the light off in particular scenarios.
	Мах.	Maximum light level that can be reached with automatic or manual control (e.g. with a wall switch). If the light is set between the high-end trim and 100%, it will adjust to the high-end trim.
Power up behavior	Keep light off	Light remains off on power up.
		If manual override timeout is enabled then the light returns to default settings (automation) after the timeout if occupancy is not detected.
	Restore	Light level and color temperature returns to the state before power failure.
		Example: If a device has been in an occupied state before power



Manual override	Defined light level Time	failure the occupied state will be restored on power up. The timeouts will be restored. Light comes on at this light level on power up. Color temperature returns to default. If manual override timeout is enabled then the light returns to default settings (automation) after the timeout if occupancy is not detected. Time after which the light switches itself to default settings.
timeout		Example: Manual override timeout is set to 10 minutes. When you turn on one of the preset scenes from the EnOcean switch, after 10 minutes of detected vacancy in the space the light will be switched to default settings. NOTE: Any human activity detected (such as occupancy, using the EnOcean switch) will reset the timer.
Scenes		
Scene A	Light level (%)	Light level when switched on.
Scene B	Light level (%)	Light level when switched on.

Occupancy sensing with daylight harvesting scenario

General		
Occupied	Light level	Light level when turned on.
	Timeout	Time for which the occupied light level is maintained when turned on. Timer resets each time motion is detected.
	Fade time	Time over which the occupied mode light level is reached.
	Keep light above minimum value	Keeps the light in the zone at the minimum value even if sufficient daylight is available.
Prolonged	Light level	Light level to be maintained for a defined time after the occupied mode (occupancy) timeout.
	Timeout	Time for which the prolonged mode light level is maintained after the occupied mode timeout.
	Fade time	Time over which the prolonged mode light level is reached after the occupied mode timeout.
	Keep light above minimum value	Keeps the light in the zone at the minimum value even if sufficient daylight is available.
Vacant	Light level	Light level to be maintained for a defined time after the



		prolonged mode timeout. It can be a non-zero value.
	Fade time	Time over which the vacant mode light level is reached after the prolonged mode timeout.
	Keep light above minimum value	Keeps the light in the zone at the minimum value even if sufficient daylight is available.
Low/high-end trim	Min.	Minimum light level that can be reached with automatic or manual control (e.g. with a wall switch). If the light is set between 0% and the low-end trim, it will adjust to the low-end trim. NOTE: Even if the low-end trim is set to a value higher than 0%,
		 the device can still be switched off: Manually with a wall switch by pressing Off. Manually by setting the app slider to 0%. Automatically if automatic control would switch the light off in particular scenarios.
	Max.	Maximum light level that can be reached with automatic or manual control (e.g. with a wall switch). If the light is set between the high-end trim and 100%, it will adjust to the high-end trim.
Power up behavior	Keep light off	Light remains off on power up.
		If manual override timeout is enabled then the light returns to default settings (automation) after the timeout if occupancy is not detected.
	Restore	Light level and color temperature returns to the state before power failure.
		Example: If a device has been in an occupied state before power failure the occupied state will be restored on power up. The timeouts will be restored.
	Defined light level	Light comes on at this light level on power up. Color temperature returns to default.
		If manual override timeout is enabled then the light returns to default settings (automation) after the timeout if occupancy is not detected.
Manual override	Time	Time after which the light switches itself to default settings.
timeout		Example: Manual override timeout is set to 10 minutes. When you turn on one of the preset scenes from the EnOcean switch, after 10 minutes of detected vacancy in the space the light will be switched to default settings.
		NOTE: Any human activity (such as occupancy or use of the



		EnOcean switch) will reset the timer.
Scenes		
Scene A	Light level (%)	Light level when switched on.
Scene B	Light level (%)	Light level when switched on.

Vacancy sensing with daylight harvesting

General		
Occupied	Light level	Light level when turned on.
	Timeout	Time for which the occupied light level is maintained when turned on. Timer resets each time motion is detected.
	Fade time	Time over which the occupied light level is reached.
	Keep light above minimum value	Keeps the light in the zone at the minimum value even if sufficient daylight is available.
Prolonged	Light level	Light level to be maintained for a defined time after the occupied mode (occupancy) timeout.
	Timeout	Time for which the prolonged mode light level is maintained after the occupied mode timeout.
	Fade time	Time over which the prolonged mode light level is reached after the occupied mode timeout.
	Keep light above minimum value	Keeps the light in the zone at the minimum value even if sufficient daylight is available.
Vacant	Light level	Light level to be maintained for a defined time after the prolonged mode timeout. It can be a non-zero value.
	Fade time	Time over which the vacant mode light level is reached after the prolonged mode timeout.
	Keep light above minimum value	Keeps the light in the zone at the minimum value even if sufficient daylight is available.
Low/high-end trim	Min.	Minimum light level that can be reached with automatic or manual control (e.g. with a wall switch). If the light is set between 0% and the low-end trim, it will adjust to the low-end trim.
		 NOTE: Even if the low-end trim is set to a value higher than 0%, the device can still be switched off: Manually with a wall switch by pressing Off. Manually by setting the app slider to 0%. Automatically if automatic control would switch the light off in particular scenarios.



Oldelviesi		
	Max.	Maximum light level that can be reached with automatic or manual control (e.g. with a wall switch). If the light is set between the high-end trim and 100%, it will adjust to the high-end trim.
Power up behavior	Keep light off	Light remains off on power up. Color temperature returns to default. If manual override timeout is enabled then the light returns to default settings (automation) after the timeout if occupancy is not detected.
	Restore	Light level and color temperature returns to the state before power failure. Example: If a device has been in an occupied state before power failure the occupied state will be restored on power up. The timeouts will be restored.
	Defined light level	Light comes on at this light level on power up. Color temperature returns to default. If manual override timeout is enabled then the light returns to default settings (automation) after the timeout if occupancy is not detected.
Manual override timeout	Time	Time after which the light switches itself to default settings. Example: Manual override timeout is set to 10 minutes. When you turn on one of the preset scenes from the EnOcean switch, after 10 minutes of detected vacancy in the space the light will be switched to default settings. NOTE: Any human activity detected (such as occupancy, using the EnOcean switch) will reset the timer.
		Scenes
Scene A	Light level (%)	Light level when switched on.
Scene B	Light level (%)	Light level when switched on.



Central control

General		
Default light level	Light level	When selected, the light will come on to this level (0-100% light level).
	Fade time	Time over which the light level is reached after turned on.
Low/high-end trim	Min.	Minimum light level that can be reached with automatic or manual control (e.g. with a wall switch). If the light is set between 0% and the low-end trim, it will adjust to the low-end trim. NOTE: Even if the low-end trim is set to a value higher than 0%, the device can still be switched off:
		 Manually with a wall switch by pressing Off. Manually by setting the app slider to 0%. Automatically if automatic control would switch the light off in particular scenarios.
	Max.	Maximum light level that can be reached with automatic or manual control (e.g. with a wall switch). If the light is set between the high-end trim and 100%, it will adjust to the highend trim.
Davisan van bahas dan	Keep light off	Light remains off on power up.
Power up behavior	Restore	Light returns to the last level before power failure.
	Defined light level	Light comes on at this light level on power up.
Scenes		
Scene A	Light level (%)	Light level when switched on.
Scene B	Light level (%)	Light level when switched on.



Photocell

		General		
Night	Night starts below	Threshold of the level reported by the light sensor, below which the light switches to the night settings.		
	Default	Light level to which the light is switched on when it gets dark (only when vacant if occupancy level is enabled).		
	Occupancy	Light level to which the light is switched on when occupancy is detected.		
Occupancy timeout	Duration	Time for which the defined light level is maintained after occupancy is detected.		
Manual override timeout	Time	Time after which the light switches itself to default settings.		
Low/high-end trim	Min.	Minimum light level that can be reached with automatic or manual control (e.g. with a wall switch). If the light is set between 0% and the low-end trim, it will adjust to the low-end trim.		
		NOTE: Even if the low-end trim is set to a value higher than 0%, the device can still be switched off: • Manually with a wall switch by pressing Off. • Manually by setting the app slider to 0%. • Automatically if automatic control would switch the light off in particular scenarios.		
	Max.	Maximum light level that can be reached with automatic or manual control (e.g. with a wall switch). If the light is set between the high-end trim and 100%, it will adjust to the high-end trim.		
Day	Day starts above	Threshold of the level reported by the light sensor, above which the light switches to the day settings.		
	Default	Light level to which the light switches on when it gets bright (only vacant if occupancy level is enabled).		
	Occupancy	Light level to which the light switches on when occupancy is detected.		
Fade time	Duration	Time over which a defined light level is reached.		
Power up behavior	Keep light off	Light remains off on power up.		
		If manual override timeout is enabled, then the light returns to default settings (automation) after the timeout if occupancy is not detected.		



	Restore	Light returns to the last level before power failure.		
		Example: If a device has been in an occupied state before power failure the occupied state will be restored on power up. The timeouts will be restored.		
	Defined light level	Light comes on at this light level on power up.		
		If manual override timeout is enabled, then the light returns to default settings (automation) after the timeout if occupancy is not detected.		
Scenes				
Scene A	Light level (%)	Light level when switched on.		
Scene B	Light level (%)	Light level when switched on.		

Multiple scenes

A scenario that allows you to add four customizable scenes in the BlueMesh web app. It cannot be configured from the mobile BlueMesh app. You can set a separate name and different values for each scene depending on its properties.

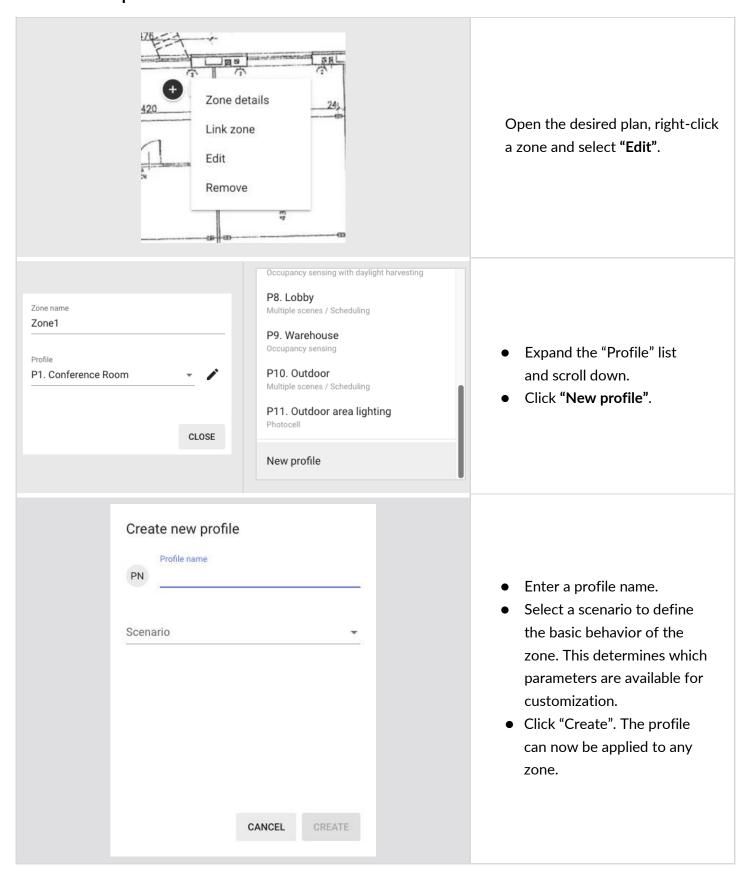
SCENE DETAILS				
Scene name	Click to edit the scene name.			
Scene properties	Static scene Automatic scene	If a static scene is chosen, none of the checkboxes are ticked. Scene properties Automatic scene Daylight harvesting Scene settings: Light level: Set the desired light level. Scene properties Automatic scene Daylight harvesting Scene settings: Occupied Fade time: the time during which the desired light level is reached. Timeout: the time for which the light is maintained at the defined level when motion is detected. Light level: the desired light level. Prolonged Fade time: the time during which the desired light level is reached. Timeout: the time for which the light is maintained at the		



		defined level before switching to Vacant. Light level: the desired light level. Vacant Fade time: the time during which the desired light level is reached. Timeout: by default it is set to: until Occupied mode is triggered. Light level: the desired light level (set to OFF by default).			
	Automatic scene with daylight harvesting	Scene settings: Keep light level above a minimum value: The feature allows the light in the zone to be kept at a preset minimum value. The light in the zone will not fall below this level for the duration of the Occupied mode. Min. value: select the minimum light value using the slider, or enter the percentage value. Occupied Keep light above minimum value Light level 300 LX 750 1500 Min. value 1			
Power up behavior	Keep light off	Light remains off on power up.			
	Restore	Light returns to the last level before power failure. Example: If a device has been in an occupied state before power failure the occupied state will be restored on power up. The timeouts will be restored.			
	Defined light level	Light comes on at this light level on power up.			

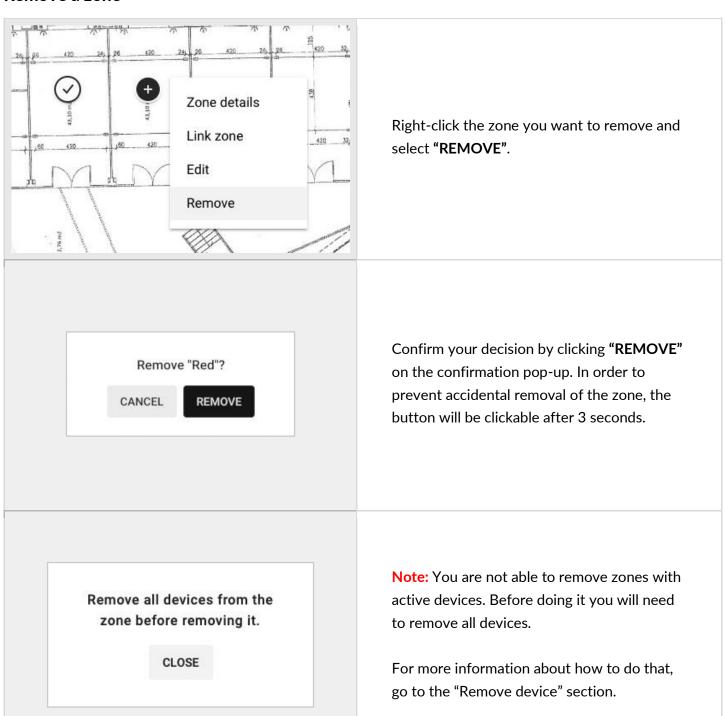


Create a new profile





Remove a zone





Zone linking

Zone linking allows occupancy and switch control to be shared between multiple zones, i.e.

- controlling multiple zones with a single wall switch,
- triggering the lights in multiple zones with an occupancy sensor.

The feature allows you to link zones in two manners: uni-directional, or bi-directional.

Uni-directional linking

Allows for triggering, or turning off the lights in linked zones in one direction only (Zone A triggers the lights in zone B, but not the other way round).

Example: A conference room (the controlling zone) is linked with a corridor. Detecting occupancy, or pressing a wall switch in the conference room will trigger the lights in the corridor. Actions in the corridor do not affect the light in the conference room.

In uni-directional linking, the controlling zone is responsible for adjusting lighting behavior in all linked zones. The signal to turn the lights on or off in linked zones depends on the controlling zone's scenario settings and can be configured with the BlueMesh web app.

Bi-directional linking

Allows for triggering, or turning off the lights in linked zones in both directions. (Zone A triggers the lights in zone B, and zone B triggers the lights in zone A).

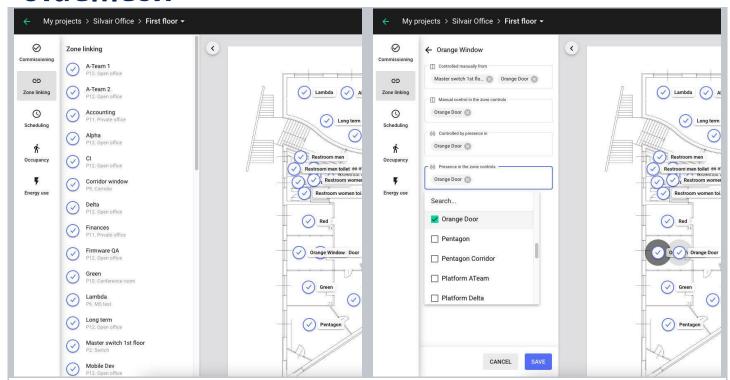
Example: A corridor is divided in two zones (zone A, and zone B), which should have the same lighting behavior. When bi-directional zone linking is applied, occupancy detected in any of the zones will turn on the light in the whole corridor (zone A and zone B). In this case, linking works in two ways - zone A triggers zone B, and zone B triggers zone A.

To link a zone:

- 1. Open the BlueMesh web app
- 2. Navigate to My projects
- 3. Select the target Area
- 4. Click the **Zone linking** tab

HINT: Alternatively, right-click the zone and select "Link zone".





Select a zone from the list or by clicking the zone in the floor plan to edit the zone-linking settings of the zone. Then, to link zones, add them to the appropriate fields from the expanded list. You can use the **Search** field so that only zones with a matching name appear in the list. The selected zone is shown in the floor plan in dark gray and the currently added zone is shown in light gray.

Controlled manually from (up to 28 zones)

The Orange Window zone is controlled by switches added to the Orange Door and Master switch 1st floor zones.

Manual control in the zone controls

Switches added to the Orange Window zone control the Orange Window and Orange Door zones.

Controlled by presence in

Light in the Orange Window zone is controlled by the occupancy sensors added to the Orange Door zone.

Presence in the zone controls

Occupancy sensors added to the Orange Window zone control the Orange Window and Orange Door zones.

To finish zone linking, click Save. To discard your changes, click Cancel.

HINT: You can visualize the links between zones by holding your cursor over the fields.



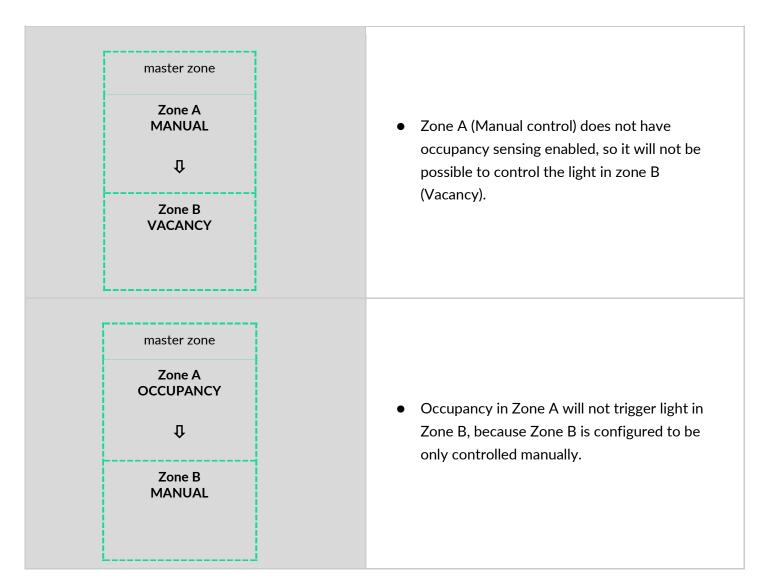
Zone linking recommendations

When you use a zone linking feature in your lighting installation, it is worth considering what are the profiles and corresponding scenarios in each of the linked zones. For example, a good practice is to link the Conference room zone with the Vacancy sensing profile and Corridor with Occupancy sensing profile to have corridor hold function.

On the other hand, it is not advisable to link motion between two zones, where one of them has Manual control profile, and light in the other zone is controlled with an occupancy sensor.

Check the below examples for more information.

Examples of unworkable configurations:





Pres	zones have the same profising a wall switch in zone Aers the light in zone B.	mai	light in Zone B will be ntained while occupancy etected in Zone A.	man	r the light is switched or ually in Zone B it will be ntained while occupancy	
	Zone B VACANCY		Zone B OCCUPANCY		Zone B VACANCY	
	Û		Û		Û	
	Zone A VACANCY		Zone A VACANCY		Zone A OCCUPANCY	
	master zone		master zone		master zone	

Scheduling: in-node and gateway-based

Creating an event

BlueMesh web app

- 1. In the BlueMesh web app, open a project and then an area.
- 2. On the left, click Scheduling.
- 3. At the bottom, click the + icon.
- 4. Select Gateway or In-node and click Next.
- 5. In the **Event name** field, enter a name for the event.
- 6. From the **Scene** list, select the scene that will be recalled. When you move your cursor over a scene in the list, all zones with the corresponding profile will be highlighted in the floor plan.
- 7. In the **Fade in** field, enter the time during which the scene will become active.
- 8. In the **Select days** field, select the days when you want the event to occur.
- 9. For an in-node event, enter when to trigger the event in the local time.
- 10. For a gateway event, enter when to trigger the event in the local time or select astronomical schedule:
 - If you want to trigger the event at a specific time, select **Time** and enter the local time.
 - If you want to trigger the event before or after sunrise, select **Sunrise**. Then, from the **Offset** list select **Before sunrise** or **After sunrise**. In the **Offset time**, enter the offset value.
 - If you want to trigger the event before or after sunset, select **Sunset**. Then, from the **Offset** list select **Before sunset** or **After sunset**. In the **Offset time**, enter the offset value.
 - The time of sunset and sunrise is based on the geographical location set for the gateway.
- 11. Click Save.

BlueMesh mobile app (only for in-node scheduling)



12. In the **BlueMesh mobile app**, go to each area with zones affected by the event and tap **Configure**. The event configuration will then be sent from the cloud to the devices.

Editing an event

BlueMesh web app

- 1. In the BlueMesh web app, open a project and then an area.
- 2. On the left, click **Scheduling**.
- 3. Click the event.
- 4. Edit the parameters.
- 5. Click Save.

BlueMesh mobile app (only for in-node scheduling)

6. In the **BlueMesh mobile app**, go to each area with zones affected by the event and tap **Configure**. The event configuration will then be sent from the cloud to the devices.

Removing an event

BlueMesh web app

- 1. In the BlueMesh web app, open a project and then an area.
- 2. On the left, click Scheduling.
- 3. Click on the event and select **Remove**.

BlueMesh mobile app (only for in-node scheduling)

4. In the **BlueMesh mobile app**, go to each area with zones affected by the event and tap **Configure**. The event configuration will then be sent from the cloud to the devices.

Manual time sync (for iOS/iPadOS)

To ensure accurate in-node scheduling (INS) if there is no source of time in the network, the BlueMesh mobile app for iOS/iPadOS may be used to <u>sync the time between the mobile device and the mesh network</u>. This may be done when power is restored after a power outage, or periodically to keep the difference between the real time and the time in the mesh network to a minimum.

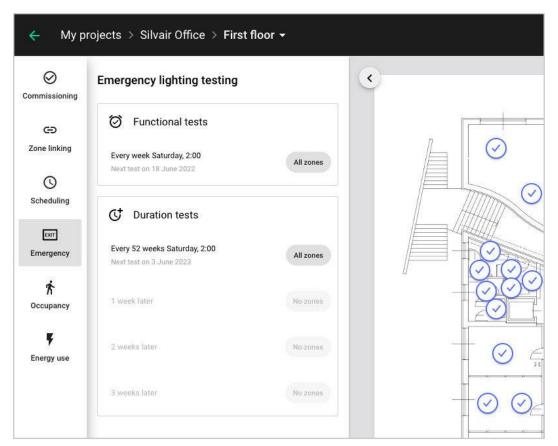
For more information about scheduling, see <u>BMN-201 Scheduling</u> and <u>BMN-202 Optimizing mesh network</u> performance.



Emergency lighting testing

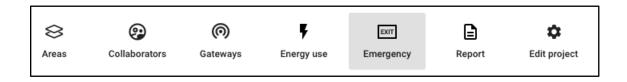
The Emergency tab in the **BlueMesh web app** allows you to define schedules for testing emergency devices.

Two types of tests can be scheduled: functional and duration.



To collect the test results from all emergency devices in the project, you must be on-site and use the **BlueMesh mobile app for iOS/iPadOS**. The collected results are stored in the cloud. Tests are done automatically by the devices, but can also be started manually using the **BlueMesh mobile app for iOS/iPadOS** for each emergency device.

To view the collected results, open the **BlueMesh web app** and go to Project > Emergency.



For more information, see <u>BMN-214 Emergency lighting testing application note</u>.



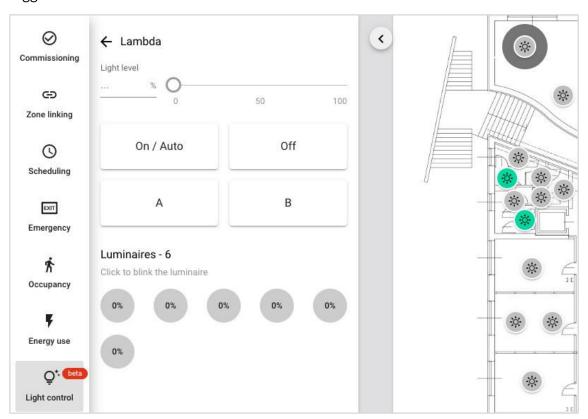
Light control (beta feature)

If a gateway has been added to the project and this feature is enabled for your project, you can control a zone remotely from the BlueMesh web app.

If you want to use light control, go to the <u>Customer Portal</u> and submit your request to enable this beta feature for your project. Make sure to include the URL of your project.

To control a zone, open the project and area. On the left side bar, click **Light control**. Select the zone you want to control from the list or floor plan and use the slider or enter a value to set the required light level for the zone. You can also use the following:

- On/Auto restore the scenario
- Off turn off the lights
- A trigger scene A
- B trigger scene B



The round gray icons with percentages represent each luminaire in the zone. The percentage is the current light level. To identify a luminaire, click the luminaire icon.

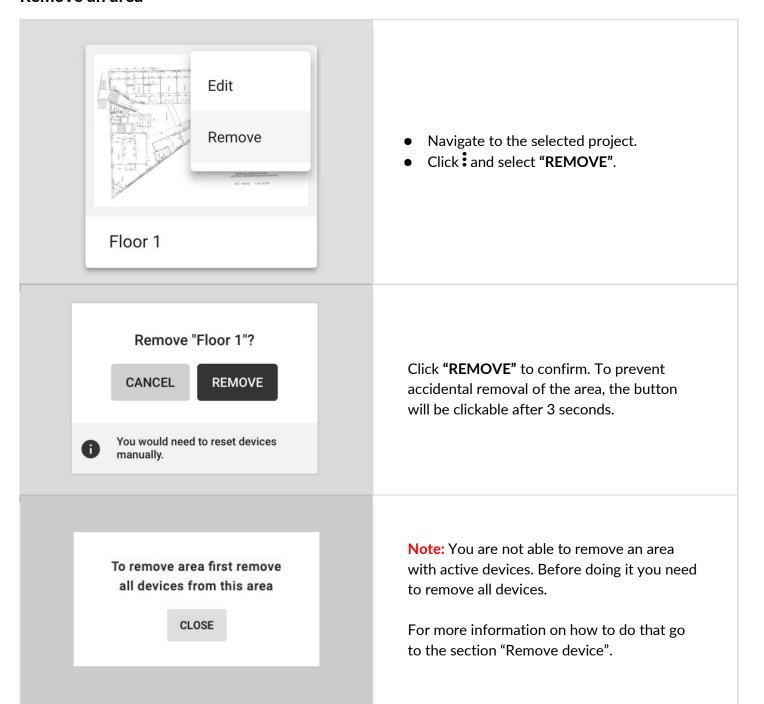
A green icon on the floor plan means that the light in the zone is on. A gray icon means that the light is off.

The zone returns to its default settings when the manual override timeout set in the control profile for the zone has passed after the last occupancy detection. If the manual override timeout is disabled, the light level will be maintained until it is manually changed from the light control tab or a switch.

NOTE: This is a beta feature which means there may be bugs or other issues, and it may fail or be removed at any time. If you experience any issues while using it, please let us know.

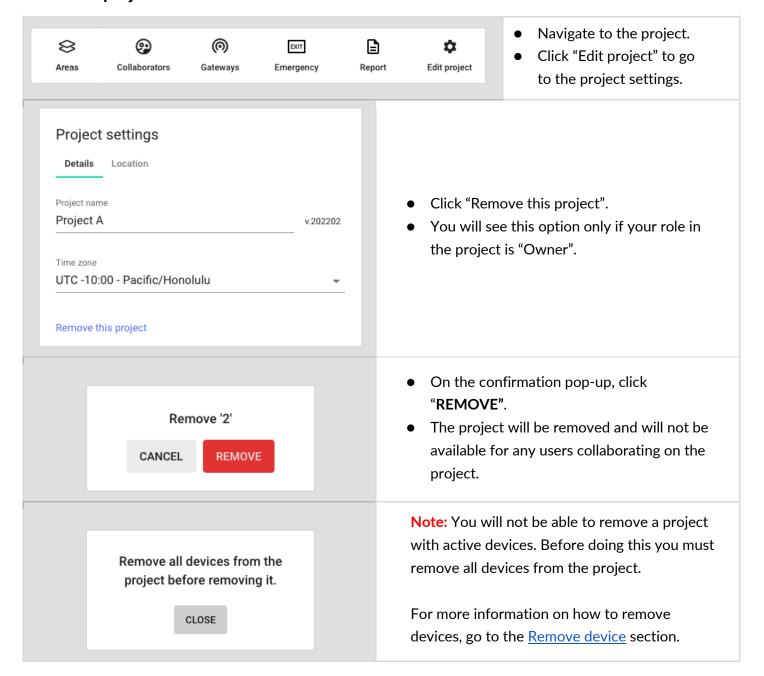


Remove an area





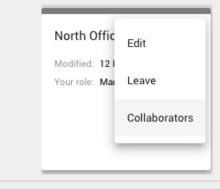
Remove a project





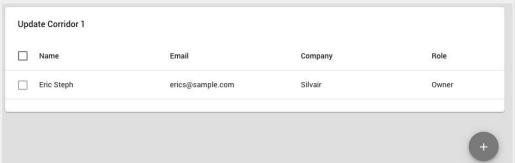
Invite and manage project collaborators

Multiple users can collaborate on the same project by creating and editing the commissioning plan and, most importantly, by carrying out on-site commissioning, thus shortening the most critical part of the whole project.



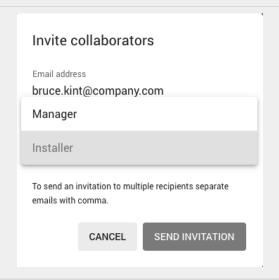
Open My projects tab, on the selected project click and select "COLLABORATORS".

NOTE: You can also click "**COLLABORATORS**" after entering a project.

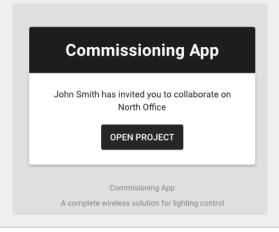


A list of collaborators available in the selected project will be displayed.

To add a new collaborator to the project, click + in the bottom-right.



- Enter one or more email addresses to invite collaborators and share access to the project.
- Select the role for the new user(s). You can choose between:
 - Installer
 - Manager
- Depending on the selected <u>user role</u> the user rights vary. Confirm by pressing the **SEND INVITATION** button.
- The invited users will be granted a set of rights to the project which depend on the user role.



All users invited to collaborate will receive an invitation email with a link to the shared project. Accessing the project requires the user to have a registered BlueMesh account.

Anyone without an account will be labeled with "Pending invitation" on the list of collaborators.

Tapping the "Open project" button on a mobile device will open the mobile app at a project screen.



User roles in the project

Our commissioning apps (web and mobile) support four user roles in the projects: owner, installer, end user, and manager.

O End user

Can only view the project and control the light. Cannot make any changes.

Installer

Can make changes in the project. Can add and manage devices.

Manager

Can manage collaborators, make changes in the project, add and manage devices.

Owner

Have full access to the project. Cannot be removed. If you create a project, you automatically become the **owner** of the project.

Owner role

- The owner is automatically assigned to the user who creates a project in the app. There is only one owner of the project.
- The owner's right cannot be revoked (there must always be an owner of the project), but instead of that it can be transferred to a <u>verified</u> collaborator.
 - O You can transfer the ownership **only when:**
 - You're logged in as owner of the project
 - There're other project members added (the owner is **not** the only person left in the project)
 - O The other collaborator(s) already have a verified account in the system
- Only the owner of a project is able to delete a project from the web / mobile app
- Owner can manage access to the project

O End user

Can only view the project and control the light. Cannot make any changes.

Installer

Can make changes in the project. Can add and manage devices.

Manager

Can manage collaborators, make changes in the project, add and manage devices.

Owner

Have full access to the project. Cannot be removed.

Manager role

- This role is granted to the user by inviting the new collaborator to a project (access is granted by owner or another manager).
- Can manage collaborators (invite / remove users from the project and change user roles).
- Can manage project and commissioning processes.
- It is possible to have multiple managers added to a single project
- They can leave a project, but cannot remove the project (only the "Owner" role can remove the project

O End user

Can only view the project and control the light. Cannot make any changes.

Installer

Can make changes in the project. Can add and manage devices.

O Manager (Current)

Can manage collaborators, make changes in the project, add and manage devices.

Owner)

Have full access to the project. Cannot be removed

End user

Can only view the project and control the light. Cannot make any changes.

Installer

Can make changes in the project. Can add and manage devices.

Manager (Current)

Can manage collaborators, make changes in the project, add and manage devices.

O Owner

Have full access to the project. Cannot be removed.

Installer

- This role is granted to the user by inviting the new collaborator to a project (access is granted by owner or another manager).
- Can manage project and commissioning processes
- This user cannot manage collaborators (cannot invite / remove users from the project or change user roles)
- It is possible to have multiple installers added to a single project
- They can leave a project, but cannot remove the project (only the "Owner" role can remove the project

End user

- This role is the default role granted to the user by inviting the new collaborator to a project (access is granted by owner or another manager).
- The user can only see a list of projects with an option to "Leave project" selected from the project context menu.
- This user cannot make changes inside a project, or manage collaborators (cannot invite / remove users from the project or change user roles).
- It is possible to have multiple end users added to a single project.
- They can leave a project, but cannot remove the project (only the "Owner" role can remove the project.

Manager Change role
Installer Revoke access
Installer

Changing user roles

- To change the user role (e.g. from a manager to an installer role), press on a project and select **COLLABORATORS**.
- Select the user and select "Change role".
- Select the role that you want this user to have and confirm with the SAVE button.



Change Zoe Miller role

End user
Can only view the project and control the light.
Cannot make any changes.

Installer
Can make changes in the project. Can add and manage devices.

Manager (Current)
Can manage collaborators, make changes in the project, add and manage devices.

Owner
Have full access to the project. Cannot be removed.

CANCEL
SAVE

• The role will be updated for the selected user.

NOTE: It is not possible to change the role of a user to "Owner" role, as there is only **one** owner of each project.

Change Zoe Miller role

O End user

Can only view the project and control the light. Cannot make any changes.

O Installer

Can make changes in the project. Can add and manage devices.

Manager (Current)

Can manage collaborators, make changes in the project, add and manage devices.

Owner

Have full access to the project. Cannot be removed.

CANCEL

TRANSFER

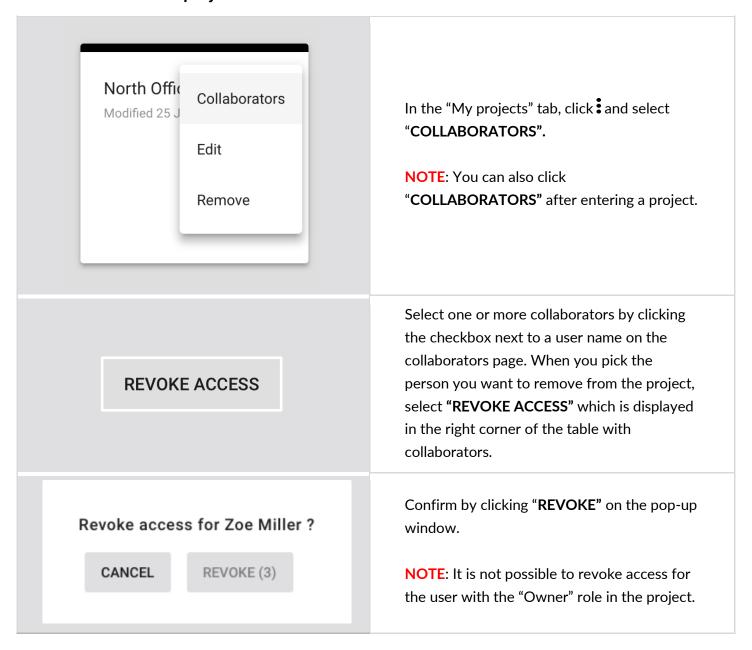
You will transfer the owner role and loose ability to fully manage the project.

Transfer ownership of a project

- It is not possible to change the role of a user who is a manager, or an installer to owner of a project. The role of "owner" can only be transferred.
- To do it, owner of a project needs to open
 COLLABORATORS panel and click on any user's menu which has a confirmed account in the app.
- Press "Change role" and select "Owner". Confirm by pressing the TRANSFER button.
- The ownership of the project will be transferred to the selected user. The user will be notified about becoming the new owner of that project



Revoke access to the project





NOTE: The selected users will be removed from the project and will no longer have access to it either from the web app or the mobile app.

Supporting previous versions

New versions of the BlueMesh Commissioning platform bring new features, improvements and some modifications that may not be compatible with the capabilities of devices in your projects, or may require some actions on-site such as reconfiguration. You can update your project to the newest version at the right time, or you can keep using it in the older version, without having to reconfigure the whole project.



NOTE: You will not be able to update projects to the newest version if they already include commissioned devices that are not compatible (e.g. out-of-date, not supported or lacking some features).

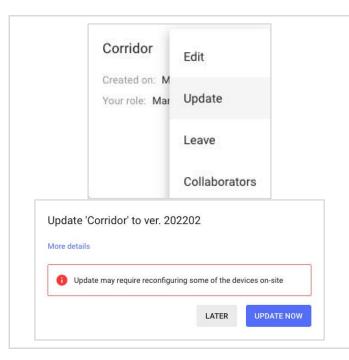




NOTE: The zones that include devices that are not compatible with the project version will be marked with alerts and conflicting devices will be highlighted on the list of devices.

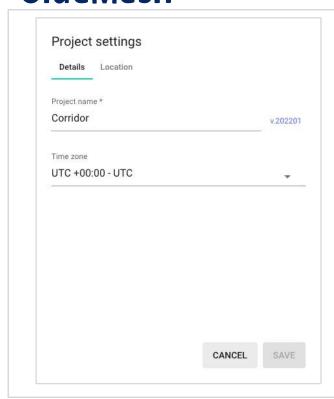
Updating the project to the latest version

You can use one of two methods to update the project to the latest version.



Method 1:

- On the project field, click and select Update.
 There will be no Update option if the project
 contains devices with an unsupported
 firmware version. In this case, you must first
 update the firmware of these devices to be
 able to update the project.
- To see the release notes, click More details.
- Click **Update now**.



Method 2:

- On the project field, click and select Edit.
- If the project version is not the latest, the version number will be highlighted.
- If the project contains devices with an unsupported firmware version, there will be information that the project cannot be updated. In this case, you must first update the firmware of these devices to be able to update the project.
- Click the version number.
- To see the release notes, click More details.
- Click **Update now**.

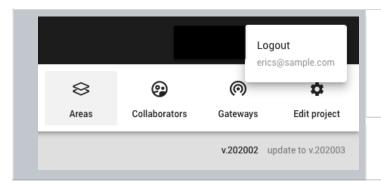
Title bar navigation



You can easily and quickly navigate through projects, areas and profiles using the navigation in the title bar. This feature also allows you to create projects and areas quickly.



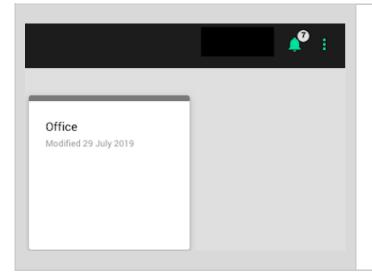
Sign out



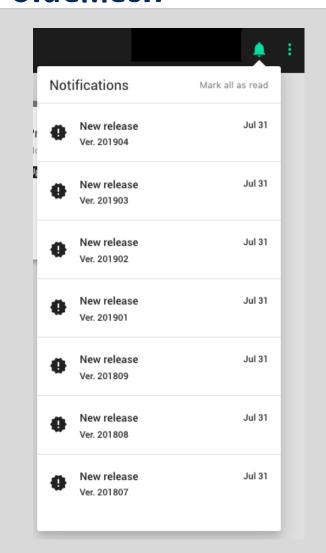
To sign out, in the top-right corner of the screen click : (on the black navigation bar).

When the menu appears, click **Logout**.

Notifications



When a new version of the app is available, you will see an icon on the black navigation bar with a number of new notifications on it.



To see more information about a release, click the icon and press the release notification that you want to read on.

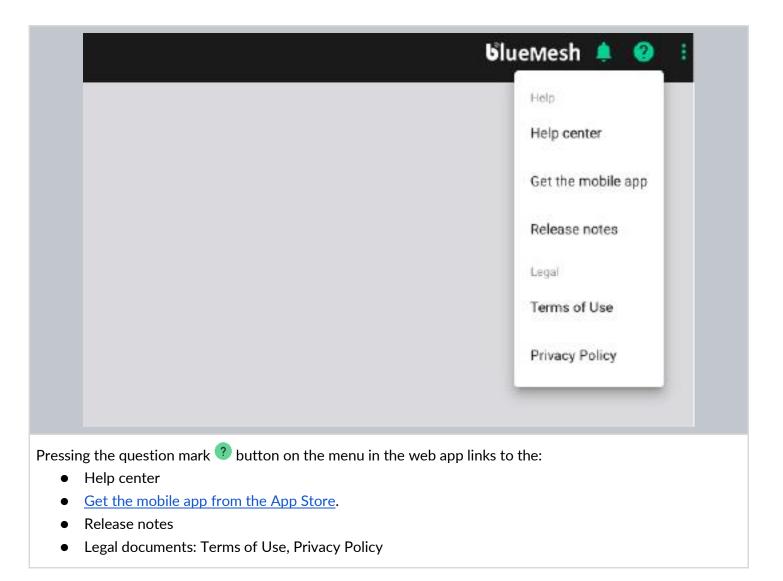
To delete an individual notification, hover on the release notification from the list and press the x button (clear notification).

You can also click "MARK ALL AS READ" to see only new notifications bolded.

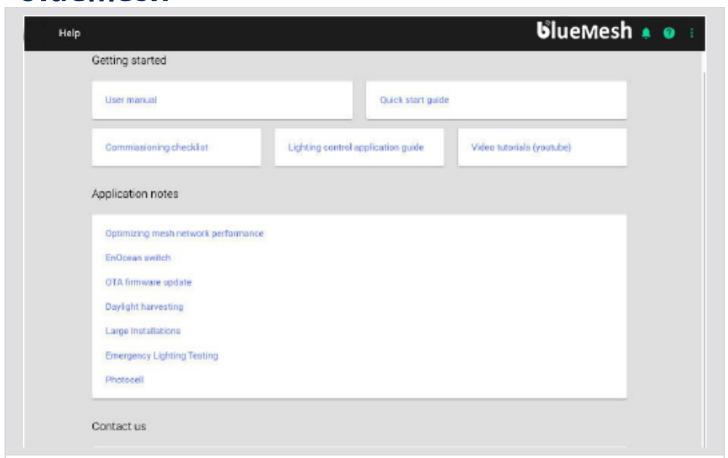


Help center

Provides quick access to all essential support documents, including user manuals, application notes, and tutorials. The Help Center can be accessed via buttons located in the upper right corner of the screen. In the web app, click the question mark 3 button. In the mobile app, use the context menu \$\frac{1}{2}\$ button.







Help center:

- Opens in a new tab.
- Is available externally you don't need to be logged in.
- Can be accessed via the mobile app.
- Contains support documents, including user manuals, application notes, and tutorials.
- Provides contact information for customers who require support.



3. Commissioning on-site

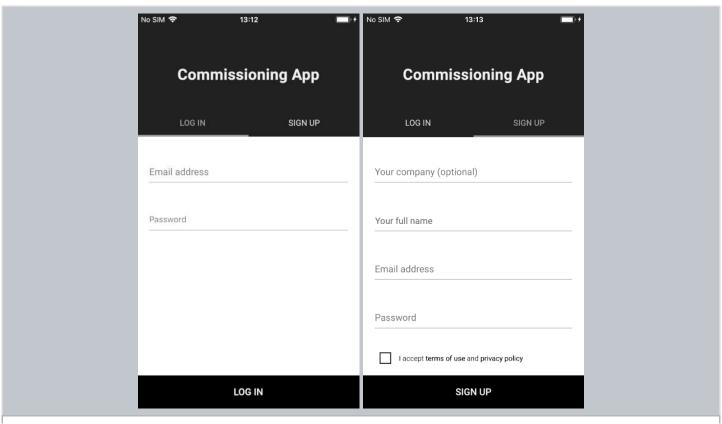
Commissioning of the devices installed on site can be done with the BlueMesh mobile app for <u>iOS, iPadOS</u>, or <u>Android</u>. The mobile app syncs with the web app, so any problems or changes made during commissioning are visible in both apps in real time. The BlueMesh mobile app supports 8 languages: English, German, French, Spanish, Finnish, Korean, traditional Chinese and simplified Chinese. You can change it anytime.



NOTE: For as long as it remains in use, the mobile app disables your smartphone's automatic screen locking functionality. This is to allow an undisturbed commissioning process.

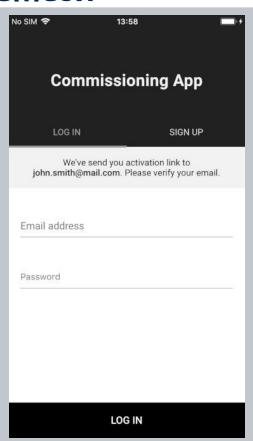
Log in and sign up

To use the commissioning app, sign in to your account, or create one in the BlueMesh mobile app for iOS/iPadOS. Make sure you have access to the project you're going to commission (see: Invite and manage project collaborators).

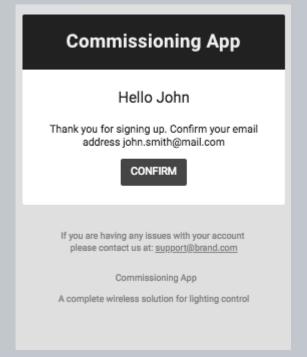


For new users: open "SIGN UP" and enter your company (optional), first and last name, email and password. Accept the terms of use and privacy policy and click "SIGN UP".





A verification email will be sent to the address you entered.

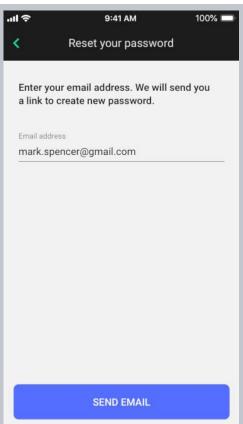


On your phone, open the verification email and click "CONFIRM". Once the email is verified you can login to the BlueMesh mobile app.⁶

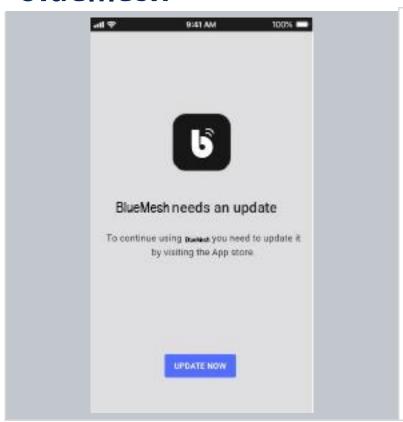
 $^{^{\}rm 6}$ Clicking ${\bf Confirm}$ will direct you to the web app in your mobile web browser.



 If you have forgotten your password, open the BlueMesh mobile app for iOS/iPadOS, tap "Don't remember your password?" button at the bottom of the page.

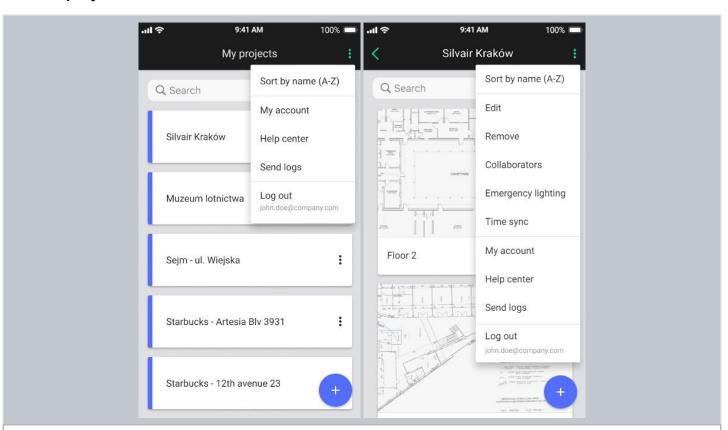


- Enter your valid email address.
- Check your mailbox for the confirmation email with the link to create a new password.
- Follow the steps in the email to create a new password.



If an update is required, information about the need to download updates will be displayed. After pressing the "**Update now**" button you will be redirected to the App store or Google Play.

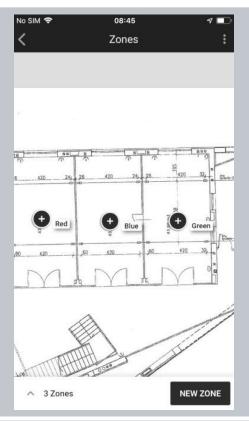
Select a project and area



All projects that you have access to will be listed in the projects list. To begin commissioning, select the desired project and area. In the mobile app for iOS/iPadOS, you can search projects and areas, and sort them by name or date.



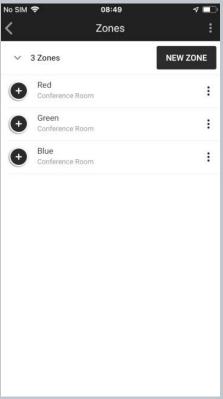
Select a zone



Area view:

- Zones appear labeled with their assigned name.
- Use a pinch/spread gesture to zoom in and out.
- Select the zone to be commissioned by tapping the zone icon.

The app automatically displays the previously created zones along with their actual status (see: Zones)



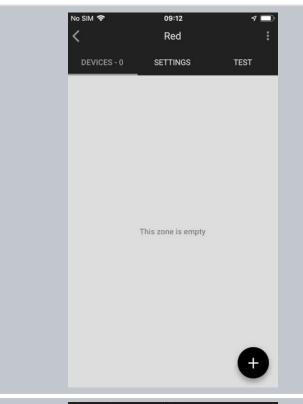
List view:

- If you prefer to see the zones on a list, tap the element at the bottom of the screen with the number of zones, e.g. 3
 Zones in this example.
- Each zone has a status icon, name and assigned profile, e.g. Conference Room
- Select the desired zone by tapping its name.
- To go back to the area view, tap on the element at the top of the screen with the number of zones, e.g. "3 Zones".

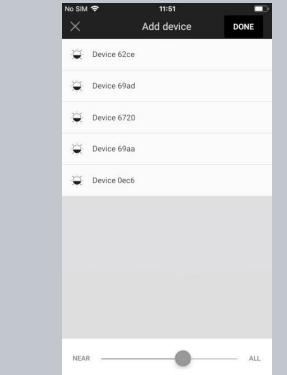


Add devices

Adding devices to a zone allows their full functionality to be accessed and provides maximum security. Devices added to a zone for the first time must also be configured in order to be fully functional.

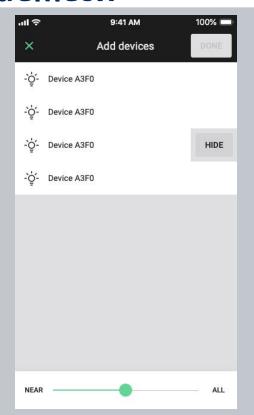


- Select the zone to be commissioned in the area or Zones list view.
- Tap the + button to add a device.⁷



- Narrow down the list to show the closest devices by moving the slider to the left.
- Select the device you want to add by tapping its name.

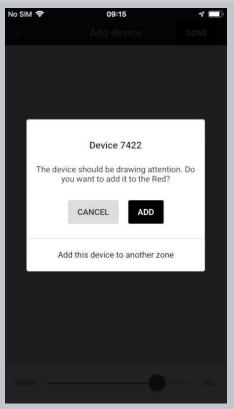
⁷ Before adding devices to an existing project, the app may require the user to be within range of previously added devices in order to add devices with current network security settings. Ignoring this may lead to issues in communication, causing devices to not operate as expected.



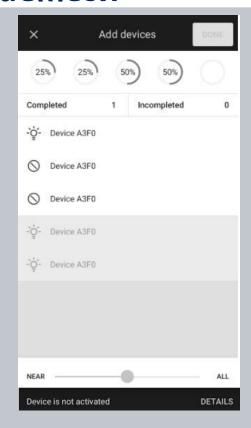
HINT: In the BlueMesh mobile app for iOS/iPadOS you can hide the devices from the Add devices view, so that it does not identify them repeatedly. It limits the list of devices to the ones you're looking for.

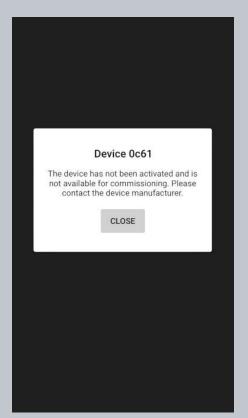
To do it, swipe the finger from right to left.

The removed devices will appear again after the "pull down to refresh" action.



- Check if the device is attracting attention e.g. by flashing (this behavior depends on the device).
- If this is the device you want to add to the zone, tap "ADD".
- If this is not the device you want to add to this zone, but you know you want to add it to another zone, in the BlueMesh mobile app for iOS/iPadOS tap on the link "Add this device to another zone".
- Otherwise, tap "CANCEL" and move on to the next device.



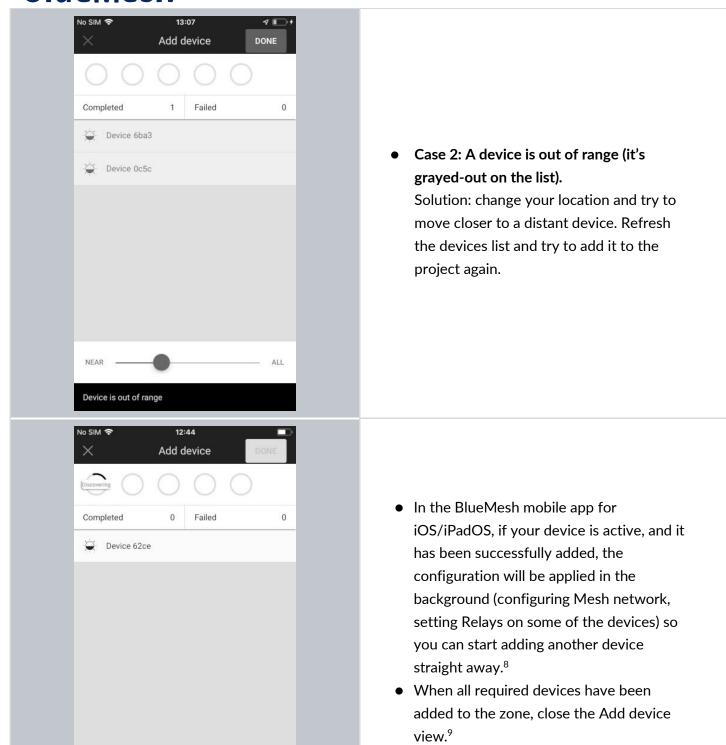


Inactive Devices

It may happen that one (or some) of the devices are grayed out on the list, or are marked inactive with this icon \circ . This indicates that you **cannot** add them to your project. There are two cases when a device cannot be added to a project:

Case 1: A device has not been activated.
 Solution: You need to contact this device's manufacturer to set up activation.





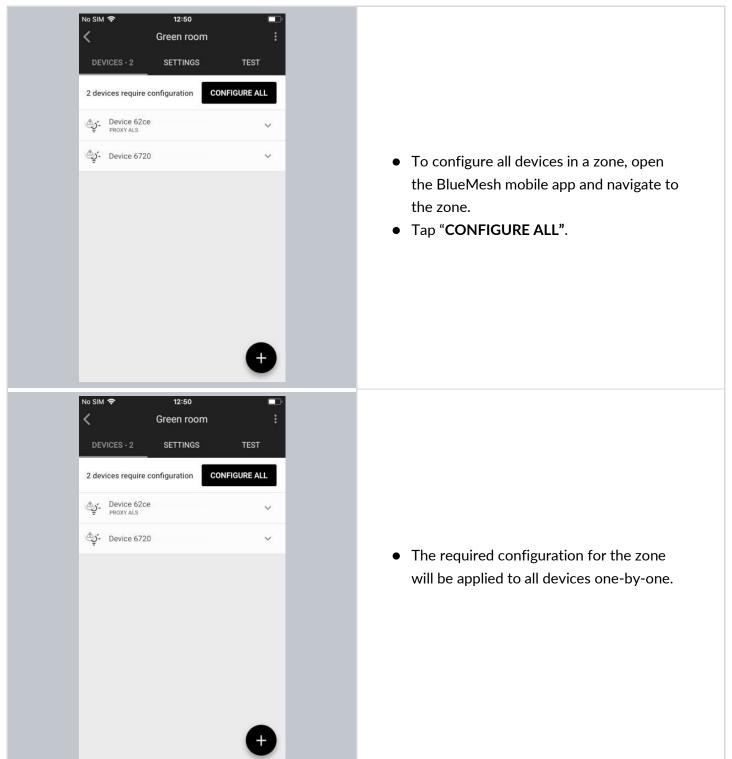
Configure all devices in a zone

In rare cases, you have to configure the device manually using the mobile app (select a single device or a group of malfunctioning devices by pressing **CONFIGURE ALL** button). Manual configuration is needed when:

⁸ Note: Up to 5 devices can be configured in parallel. The configuration status is displayed in the upper panel.

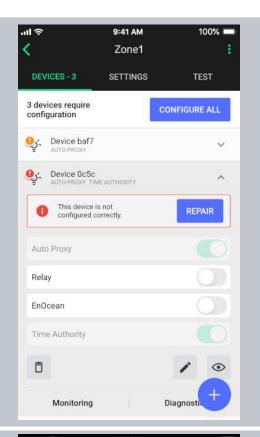
⁹ Note: Closing the "Add device" window before configuration has completed will result in an incorrect configuration and the zone will have to be reconfigured later.

- there was a connection error (e.g. internet problems)
- devices configuration was accidentally interrupted (e.g. the mobile device powers off)
- zone settings have been changed (e.g. changing profile, changing scenario settings, adding/editing zone linking).





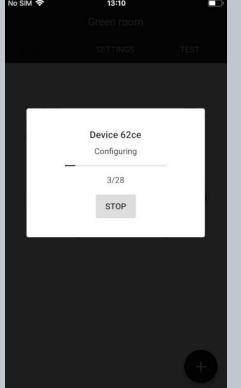
Repair a device



In some cases, configuration of the device may fail or be canceled by the user. In such cases, the device configuration needs to be repaired.

To repair a misconfigured device:

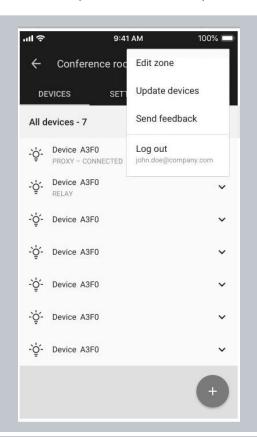
- (iOS/iPadOS) Select the device from the Devices list, expand the options, and tap "REPAIR".
- (Android) Tap to open the device context menu, and tap "Configure".



• The required configuration will be applied to the device.



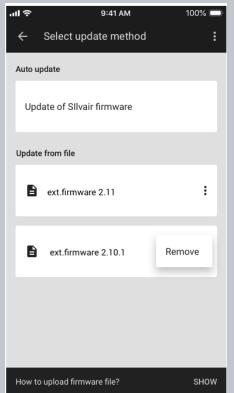
Update devices (for iOS/iPadOS)



With the BlueMesh mobile app for iOS/iPadOS, you can also do the OTA (over-the-air) update of devices in the mesh network.

The feature allows you to update devices that have already been added to the mesh network. Update for devices with BlueMesh firmware is automatic (the new firmware is stored and automatically downloaded from the cloud).

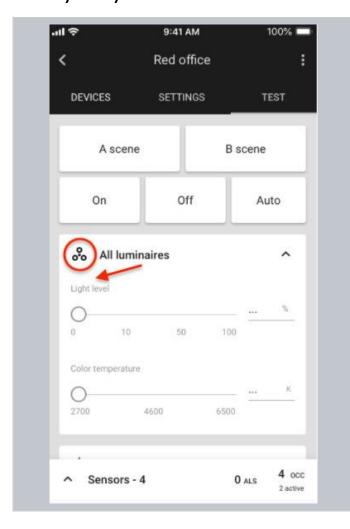
To update devices with external firmware, you must have a firmware file (in a zip format) and upload it to the BlueMesh mobile app.



Full information about OTA (over-the-air) update and configuration details available in <u>BMN-208</u>
OTA firmware update for provisioned devices.



Identify faulty luminaires in a zone



When an installer finishes adding devices, but there is at least one faulty node inside that zone, there is an easy way to check where such a faulty luminaire is located.

To do it, in the BlueMesh mobile app for iOS/iPadOS navigate to the zone where you were adding, or updating devices and go to the TEST tab and tap . This will trigger all the devices in the zone to draw attention. Watch the luminaires in the space. The faulty luminaire will not be flashing.

Alternatively, you can also use the "Light level" slider which is located under the "All luminaires" button. While moving the slider to any light level (e.g. 70%), the faulty node will not change its light level.

Zone profile customization (for iOS/iPadOS)

Once all the devices have been added to the zone, you can change the settings (e.g. default light level) in the BlueMesh mobile app for iOS/iPadOS by going to the **SETTINGS** tab and tapping **CUSTOMIZE**. The settings and features depend on the **scenario** which controls the profile. Each profile can be controlled by one of the 7 available scenarios (see Scenario parameters for customization).

Example:

In **profiles** controlled by the **manual control** scenario, you can change the *default light level* and the *low/high-end trim* using the BlueMesh mobile app for iOS/iPadOS.

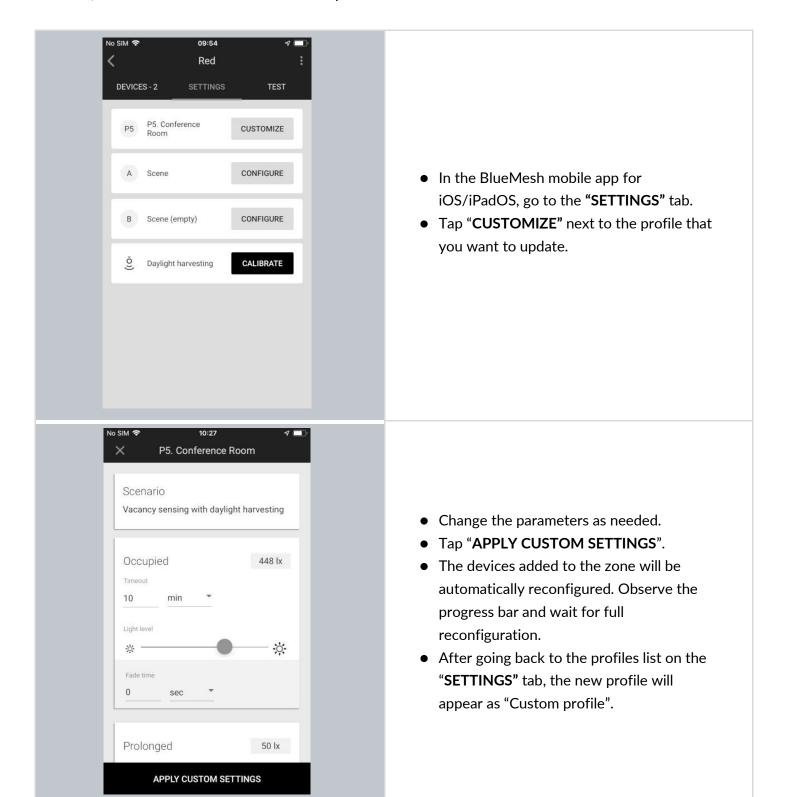


NOTE: Any changes made to zone parameters via the mobile app will automatically create a local, customized version of the original profile. These changes will be applied only to the particular zone and will not affect other zones configured with the original profile.

Customize a profile (for iOS/iPadOS)



Each profile can be customized in the BlueMesh mobile app for iOS/iPadOS. Depending on the selected **Scenario**, there will be different customization parameters available.



Which scenario can be customized?

Each profile has one scenario assigned and there are 7 scenarios available:



- Manual control
- Occupancy sensing
- Vacancy sensing
- Occupancy sensing with daylight harvesting
- Vacancy sensing with daylight harvesting
- Central control
- Central control for dual output

Each of the above scenarios has one or a few parameters to customize. The following table shows a list of parameters that can show up for customization in each of the above scenarios.

Scenario customization parameters

Parameter	Description
Default light level	Light level when turned on. Fade time - time over which the default light level is reached.
Occupied	Light level - light level when turned on.
	Timeout - time for which the defined light level is maintained after turned on. The timer resets each time motion is detected.
	Fade time - time over which the occupied mode light level is reached.
Prolonged	Light level - light level to be maintained for a defined time after the occupied mode (occupancy) timeout. Timeout - for which the prolonged mode light level is maintained after the occupied mode timeout. Fade time - time over which the prolonged mode light level is reached after the occupied mode timeout.
Vacant	Light level - level to be maintained for a defined time after the prolonged mode timeout. It can be a non-zero value. Fade time - over which the vacant mode light level is reached after the prolonged mode timeout.
Low/high-end trim	Min minimum light level that can be reached with automatic or manual control (e.g. with a wall switch). If the light is set between 0% and the low-end trim, it will adjust to the low-end trim. Max maximum light level that can be reached with automatic or manual control (e.g. with a wall switch). If the light is set between the high-end trim and 100%, it will adjust to the high-end trim.
Manual override timeout	Time after which the light switches itself to default settings.



Color temperature

Tunable white is a feature that allows the light intensity and correlated color temperature (CCT) to be controlled in order to achieve lighting conditions that are closer to natural light. Color temperature is controlled independently from the light level, so adjusting it won't interfere with the Daylight Harvesting mode, the selected scene or manual dimming.

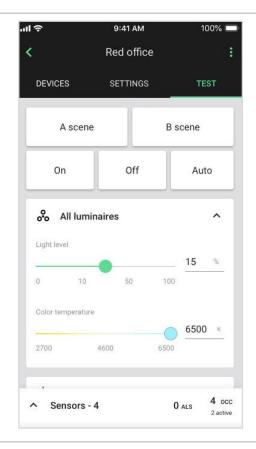
Tunable white feature requires:

- using luminaires that support tunable white
- using Bluetooth mesh devices (whether fixture controllers, or drivers) with devices that support tunable white
- devices must be **flashed** with a firmware version that supports tunable white Bluetooth SIG mesh model (Light CTL Temperature (version 1.35.0 or higher))

Color temperature manual control (for iOS/iPadOS)

The BlueMesh mobile app for iOS/iPadOS allows adjusting the color temperature manually of all compatible tunable white light fixtures in the zone. The color temperature can be adjusted in two ways:

1. Open the BlueMesh mobile app for iOS/iPadOS (version 1.19 or higher), go to the **TEST** tab, and use the color temperature slider.

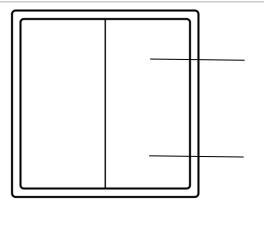


- In the BlueMesh mobile app for iOS/iPadOS, open the project, select the area and press to open a desired zone.
- Go to the "TEST" tab.
- Use the Color temperature slider to adjust the color temperature of all tunable white lights in the zone.
- The supported color temperature range is from 2700 to 6500 K.
- The default color temperature is 4000 K.

NOTE: After you set a color temperature, it will be used for all manual and automatic modes.

2. Press and hold the right button of the EnOcean switch assigned to the zone.





Press and hold - cooler temperature

Press and hold - warmer temperature

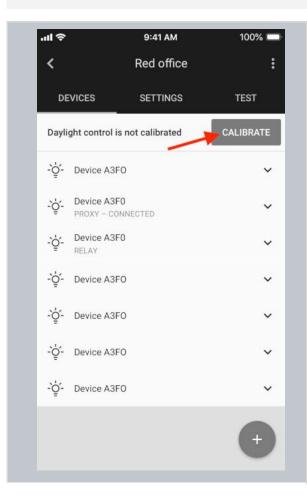
NOTE: After you set a color temperature, it will be used for all manual and automatic modes.

Daylight harvesting calibration

Calibration of light sensors and controls is critical as poorly calibrated daylight harvesting can negate any energy savings and create an uncomfortable work environment. The BlueMesh mobile app allows calibration for zones operating with daylight harvesting scenarios.



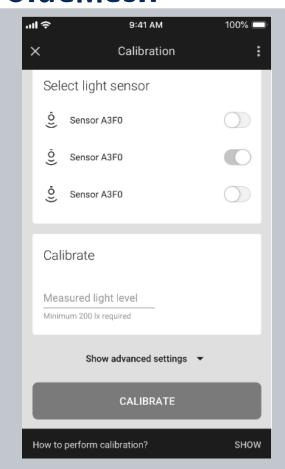
NOTE: Daylight harvesting calibration must be performed only for zones that have been properly configured. Calibration of a misconfigured zone may lead to errors.



- Open the project, select the desired area and a zone.
- Press the CALIBRATE button from the "DEVICES" tab.
 The button will be active only if the zone contains devices with ALS (ambient light sensor) that must be calibrated.

HINT: You can also start calibration from the "SETTINGS" tab:

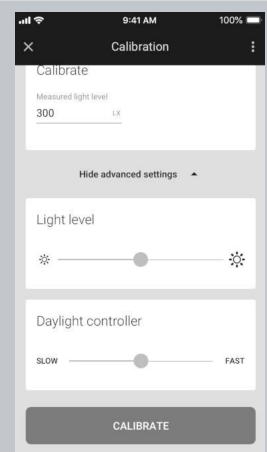
- (iOS/iPadOS) Tap "CALIBRATE" next to "Daylight harvesting".
- (Android) Tap "Calibrate daylight control".

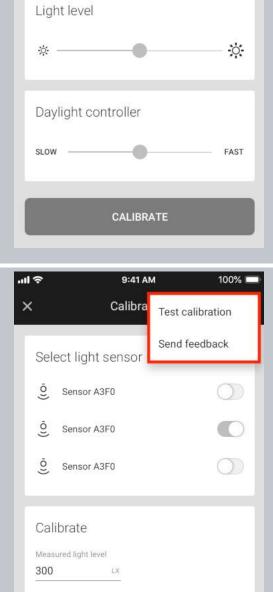


- Select the light sensor (switch the toggle next to the light sensor to the right).
 - **HINT:** After pressing $\stackrel{\circ}{\circ}$ the device starts flashing. This helps to quickly identify the luminaire.
- Place a light meter below the sensor on the surface where you want to maintain the desired light level.
- Enter the LUX value measured by the light meter in the Measured light level field. Make sure the light level in the space is higher than the minimum value shown below the input field.
- If the minimum light level cannot be achieved (e.g. you need to perform calibration in the night) adjust the light level of the luminaires in the zone using the slider available in the advanced settings below.
- Note that the ALS Calibration is done once for the whole zone. This means that the selected calibration parameters will be applied to all devices in that zone.



- After entering "Measured light level" LX value in the input field provided, tap anywhere outside the input field or press **DONE**.
- The app validates if the provided value is equal or greater than the required minimum light level.
- If validation is passed, you can confirm the action by pressing the CALIBRATE button.
- Calibration of the light sensor will start immediately.





Show advanced settings -

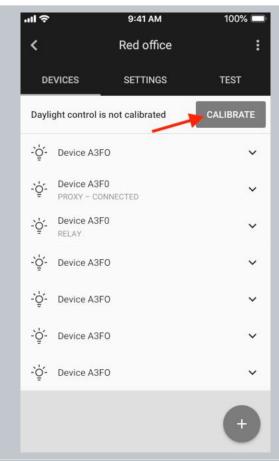
CALIBRATE

- Show advanced settings this will show you the Light level and Daylight controller sliders.
- Light level use the slider to adjust the light level of the luminaires in the zone.
- Daylight controller (iOS/iPadOS only) if there are any issues or unexpected light behavior including frequent on/off or oscillation, use the daylight controller slider to adjust the controller settings.
 - O Use the slider to adjust the responsiveness of daylight control.
 - o If oscillations occur, position the slider to the left.
 - O If daylight adjustment is too slow, position the slider to the right.
 - O Select "RUN TEST" to check whether the performance meets your requirements.
 - O After changing the slider position to the left, or right for test purposes, the slider goes back to the central position (as shown in the picture).

- Press the context menu on the calibration screen to see additional options.
- Test calibration (iOS/iPadOS only) press the START TEST button to test calibration of daylight harvesting. The testing mechanism will adjust the light level of the luminaires to the preset setpoint. The test results will show how the luminaires adjust to the setpoint. If the test shows any oscillations or misconfiguration, try to redo the calibration, or adjust the Daylight controller slider from the advanced settings.

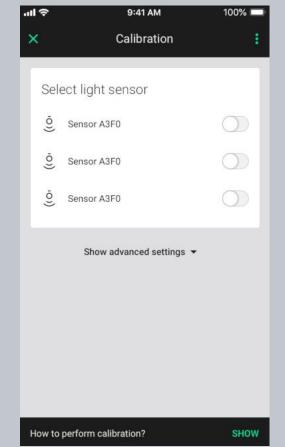


Photocell calibration



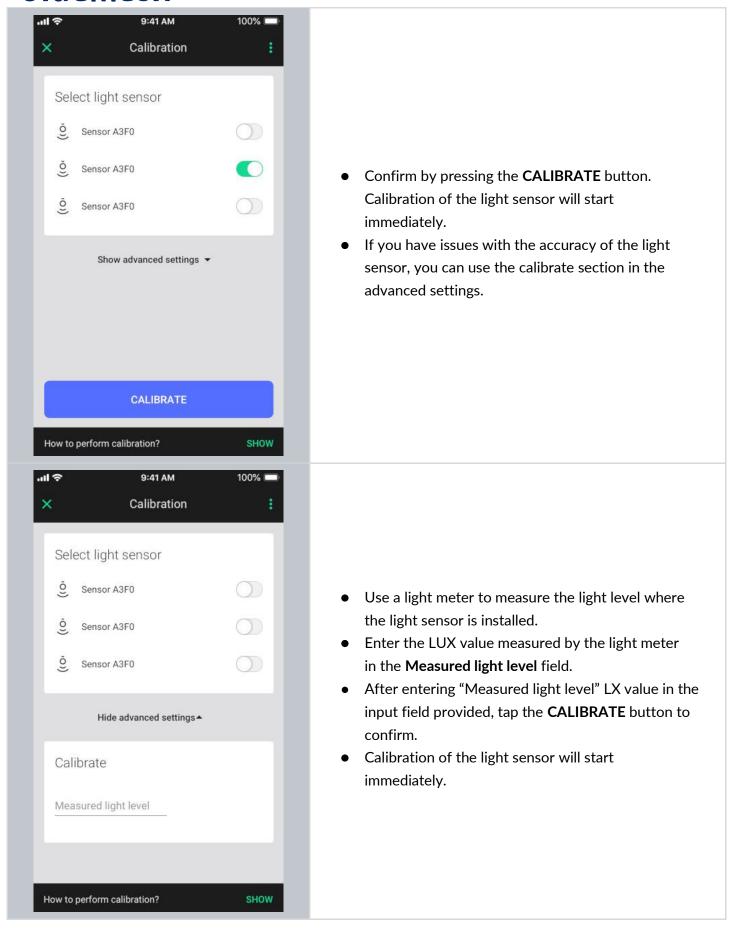
- Open the project, select the desired area and a zone.
- Press the CALIBRATE button from the "DEVICES" tab. The button will be active only if there're devices with ALS (ambient light sensor) that must be calibrated.

HINT: You can also start calibration from the "SETTINGS" tab. There is a "Photocell" element with a CALIBRATE button that opens the calibration view.



• Select the light sensor (switch the toggle next to the light sensor to the right).

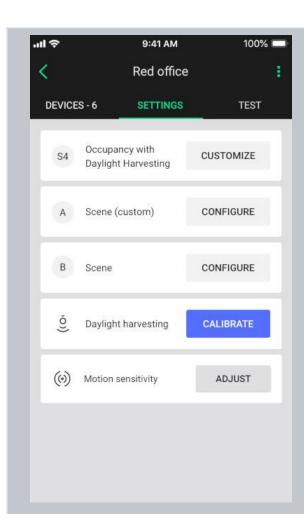
HINT: After pressing $\stackrel{\circ}{\underline{\circ}}$ the device starts flashing. This helps you to quickly identify the luminaire.



Scenes A and B setup (for iOS/iPadOS)

The BlueMesh mobile app for iOS/iPadOS allows two scenes to be created per zone. Scenes can be activated with a wall switch (see: <u>Using the EnOcean switch</u>).

- In the web app you can <u>predefine scene level</u> for scenes A and B. If the predefined settings are set up, the devices are configured using those settings while being added/reconfigured.
- If the predefined settings are not set up, you can enter scene A and B settings view in the mobile app and customize the scene in the particular zone.
- Each of the two scenes for a zone can have different parameters.



- In the BlueMesh mobile app for iOS/iPadOS, open the SETTINGS tab.
- Tap "CONFIGURE" to select the scene that you want to configure.
- Labels in the settings view show if the scene is customized in this zone
 - No label the scene has been predefined in the profile with the web app but hasn't been customized with the mobile app
 - Empty the scene hasn't been predefined nor customized
 - O Custom the scene was customized with the mobile app.

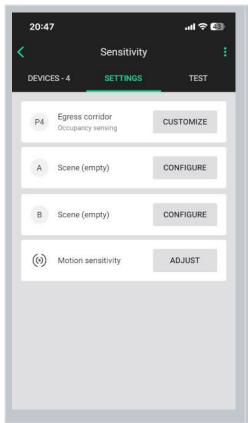
NOTE: Configuring scenes requires that all devices have been added to the zone and are configured correctly (i.e. there are no zone alerts or warnings).



- Adjust the light level for individual luminaires to reflect the desired scene configuration.
- Tap on the device icon, to identify the luminaire.
 The luminaire will start to flash.
- Tap **Apply custom settings** to save the scene.
- If the scene was customized (has a custom label), in the context menu there is an option: Restore scene, which removes scene settings, or Remove scene if the scene was not predefined in the profile.

Motion sensitivity adjustment

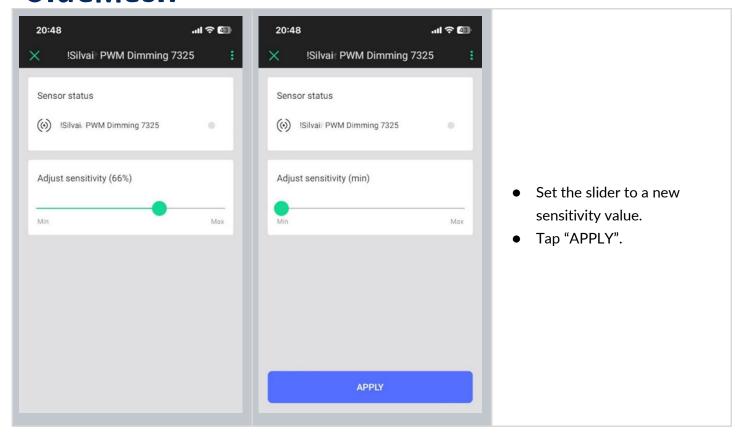
The BlueMesh mobile app allows you to adjust the sensitivity of sensors that support this feature.





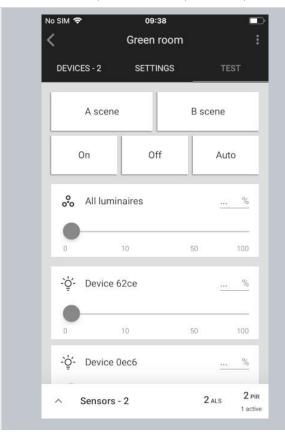
- In the BlueMesh mobile app, open the SETTINGS tab.
- (iOS/iPadOS) Tap "ADJUST".
- (Android) Tap "Motion sensitivity".
- Tap the sensor whose sensitivity you want to adjust.

NOTE: Sensors with a 'Not adjustable' label do not support sensitivity adjustment.



Test your zone

Testing allows you to test if the light control is working correctly, i.e. can the luminaires be switched on to the maximum level, switched off, dimmed, and the scenes are configured as desired.



- Open the **TEST** tab.
- Choose the test:

A scene: luminaires will go to the light level defined in scene A.

B scene: luminaires will go to the light level defined in scene B.

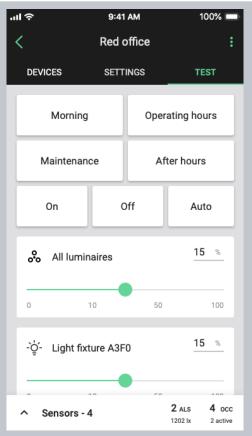
On (iOS/iPadOS only): all luminaires go to 100.

Off: all luminaires switch off.

Auto: turns on the automatic settings for luminaires.

• The luminaries will react immediately.

HINT: In the BlueMesh mobile app for iOS/iPadOS, you can check which devices are added to your zone. Press onext to "All luminaires". All devices from the zone will immediately start flashing.



 For a zone where the "Multiple scenes" scenario has been selected, the TEST tab along the On, Off, and Auto options will display the customized names of configured scenes:

Morning (scene 1)

Operating hours (scene 2)

Maintenance (scene 3)

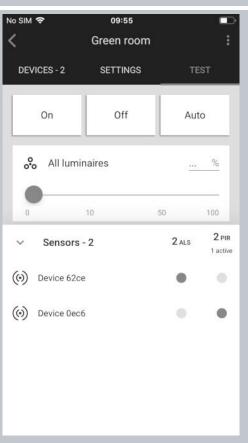
After hours (scene 4)

Testing individual luminaires (for iOS/iPadOS):

Scroll down to see all luminaires added to the selected zone.

Use the slider to change the light level, or enter the value manually (in %).

The selected luminaire should react immediately.



Sensors view (for iOS/iPadOS):

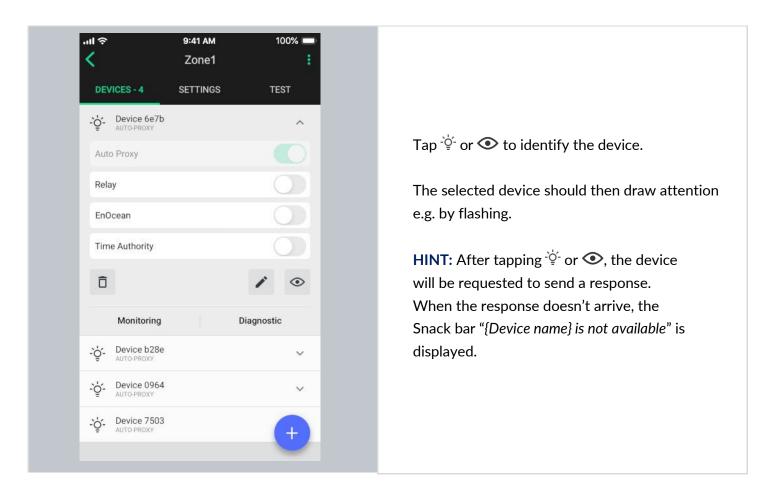
- Sensors can be previewed via the TEST tab.
- The list at the bottom of the screen shows how many sensors are available and the light level measured by the light sensor.
- The lux level value is read immediately when the panel is opened, and then the next update is only after the device reports the value. When you open the panel again, the app reads the value again (after each lux level update the background is green for 3 seconds).
- To preview the sensors, expand the list and see which sensors are currently active.
- If no sensors are available, the list is empty.



All devices commissioned to a particular zone are listed in the DEVICES tab, along with their name and features.

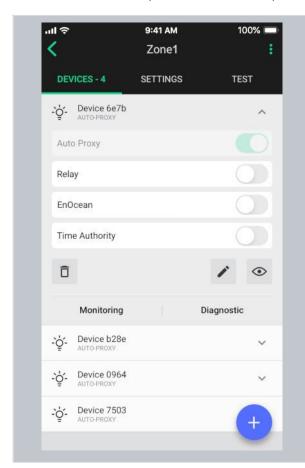
Identify devices added to a zone

Sometimes it is necessary to identify a specific device which has a problem or must be configured as a relay or EnOcean adapter.





Rename a device (for iOS/iPadOS)



- To change the name of a device, open the BlueMesh mobile app for iOS/iPadOS. Then, expand the device on the "DEVICES" view and tap

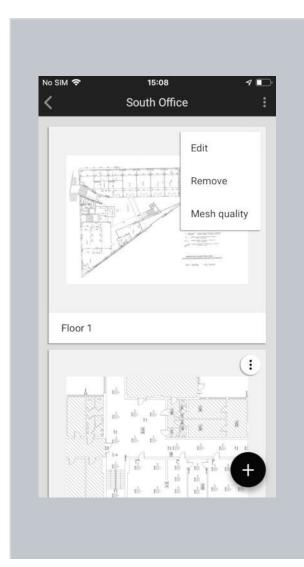
 to change the name. The new name will be visible in the mobile and web app.
- Once the name is changed, the new name will be visible in the mobile and web app.
- If the device is removed from the zone and recommissioned, it will appear in the mobile and web app with its default name.



Mesh quality test (for iOS/iPadOS)

The mesh quality test allows users to check the node availability and mesh quality within an area.

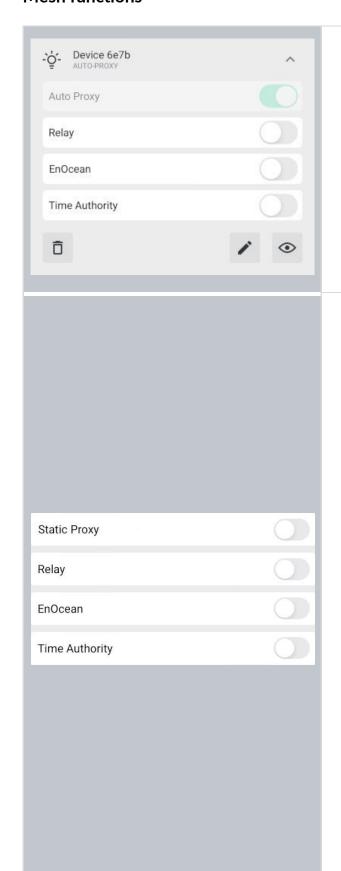
The test is performed using the BlueMesh mobile app for iOS/iPadOS from where it is currently connected to the network. If the test is performed from a different part of the network, test results might differ.



- To start running the test, open the BlueMesh mobile app for iOS/iPadOS and select the project where you would like to check the connection.
- Then, select the correct area, click the "More" button, choose "Mesh quality" and tap START TEST.
- The test selects a random device within the area and sends a ping message from it to all the nodes in that area (four retries are executed if a node does not respond to the first ping message).
- If all the nodes in a zone reply with a pong message, the zone is marked green to indicate a good connection.
- If even one node does not reply with a pong message, the zone it is added to is marked red to indicate potential connection problems.
- The results are presented on the area floor plan with the possibility to see results per device within a zone.
- For more information about the Mesh quality test and troubleshooting, see <u>BMN-202 Optimizing</u> <u>mesh network performance</u>.



Mesh functions



Auto Proxy - allows each device to automatically become a proxy whenever the BlueMesh mobile app is in range. Devices where auto proxy is enabled have the "Auto proxy" toggle switch enabled and inactive.

NOTE: The auto proxy function is available in devices with BlueMesh firmware version 2.17 and later. To use this function in already commissioned projects with devices running older firmware, update the firmware. Then, remove all devices from all zones in the project and add them again.

Static Proxy - devices and projects that do not support the auto proxy function use static proxy.

Static proxy is automatically configured by mobile app during the commissioning in order to provide access to the network in the whole project.¹⁰

In the BlueMesh mobile app for iOS/iPadOS, devices not supporting auto proxy have the "Static Proxy" toggle switch enabled or disabled.

Relay - the device sends the messages further into the mesh network.¹¹

EnOcean - the device acts as an EnOcean adapter which allows a Bluetooth EnOcean switch to communicate with a Bluetooth mesh network.

Time Authority - the device acts as the source of the current time that is shared with other devices in the network.

NOTE: The time authority function is available in devices with BlueMesh firmware version 2.20.2 and later and projects version 202101 and later.

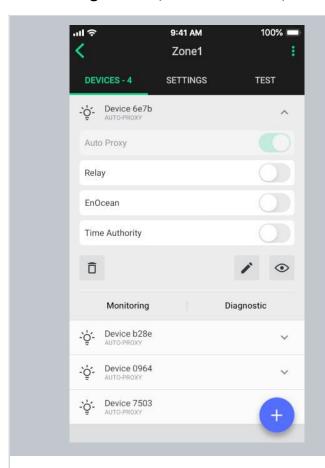
For details about mesh functions, see <u>BMN-202</u> Optimizing mesh network performance.

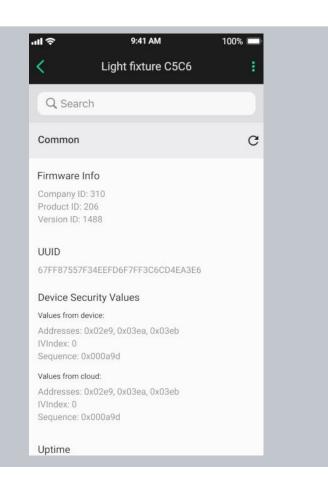
¹⁰ By default, the mobile app will make sure that at least one device in the project has the proxy enabled. Be aware that disabling or removing a proxy device affects the performance of connecting the app to the network.

¹¹ Enabling both the Static proxy and Relay functions on the same node will lead to inefficient performance and is not recommended.



Device diagnostics (for iOS/iPadOS)





The device diagnostic report in the BlueMesh mobile app for iOS/iPadOS may be helpful in the event of any problems. It gives basic information such as:

- Firmware information
- Uptime
- Time since last fault
- Controller parameters

The BlueMesh app for iOS/iPadOS also supports some manufacturer-specific device health tests, e.g. DALI Bus Reset. With the search box, you can find a cell that contains the searched string. If the search box is empty, then all properties are visible. If the search box contains the searched string, then only those cells are visible that contain the searched string in their content.



Monitoring (for iOS/iPadOS)

The monitoring feature allows you to see the energy consumption of compatible devices and occupancy events within a zone with a PIR sensor in the mobile app.

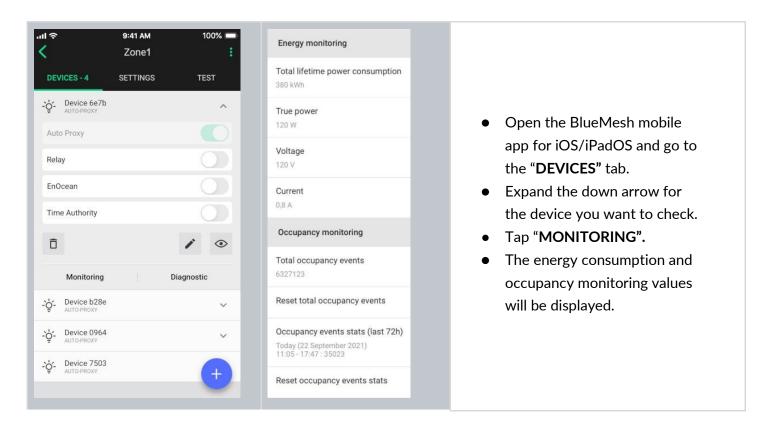
The energy monitoring values include:

- Total lifetime power consumption (kWh)
- Real power (W)
- Voltage (V)
- Power factor

The occupancy monitoring values include:

- Total occupancy events
- Occupancy event statistics (for the last 72 h)

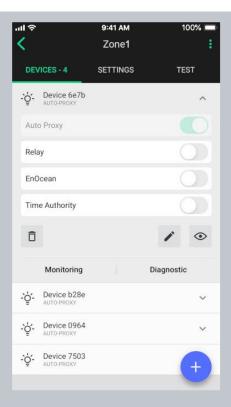
HINT: You can use the occupancy monitoring data and their reset functions to verify sensor false triggering.



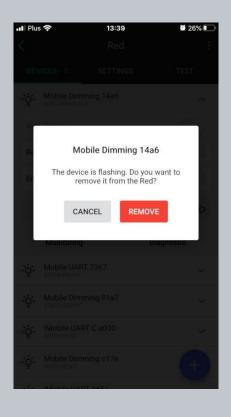


Remove a device

If a device has been added to the wrong zone or doesn't operate properly, you can remove it. This action removes the device from the network and from the project, while also resetting the device and erasing its configuration data.



- Go to the "DEVICES" tab.
- (iOS/iPadOS) Select the device you want to remove and tap $\widehat{\Box}$.
- (Android) Tap to open the device context menu and tap "Remove".
- Check if the device is attracting attention e.g. by flashing.



If it's the right device, tap "**REMOVE**" to confirm. This will remove it from the network and restore its default settings, making it available for adding to another network.

NOTE: The mobile app will not allow you to remove the last proxy device in the project if the project still contains other devices, as this will mean you will no longer be able to connect with them. To remove the last proxy, remove all other devices from the project first. Only then will the app allow you to delete the last proxy device.





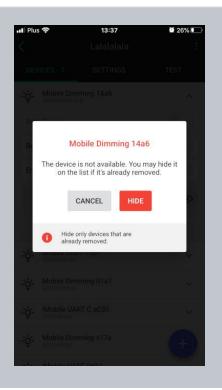
Hidden devices

As part of the device removal process described above, a device is not only removed from the app's database but also fully reset. This means removing a device from the network and restoring its default settings by erasing all configuration data, including security keys. In order to successfully carry out this process, the app needs to exchange certain data with the device which is to be removed. If the app is unable to communicate with the device, the removal process cannot be completed. This can happen in the following cases:

- device is powered off or does not operate properly (manufacturing defect, failure, etc.),
- device has already been reset or removed manually,
- mesh communication failure (e.g. device is out of range).

A device that cannot be fully removed remains visible in the app and commissioning reports, and may report configuration errors. This could be misleading, especially when such a device has already been physically removed from the ceiling. To address such cases, the app allows a device that cannot be fully removed to be hidden. A hidden device will no longer be shown in the list of available devices, included in commissioning reports, or report configuration errors. However, it can still be seen in the web app (grayed out and marked as *hidden*). This allows you to make a device available again if needed (e.g. if it was hidden accidentally).

Hiding devices



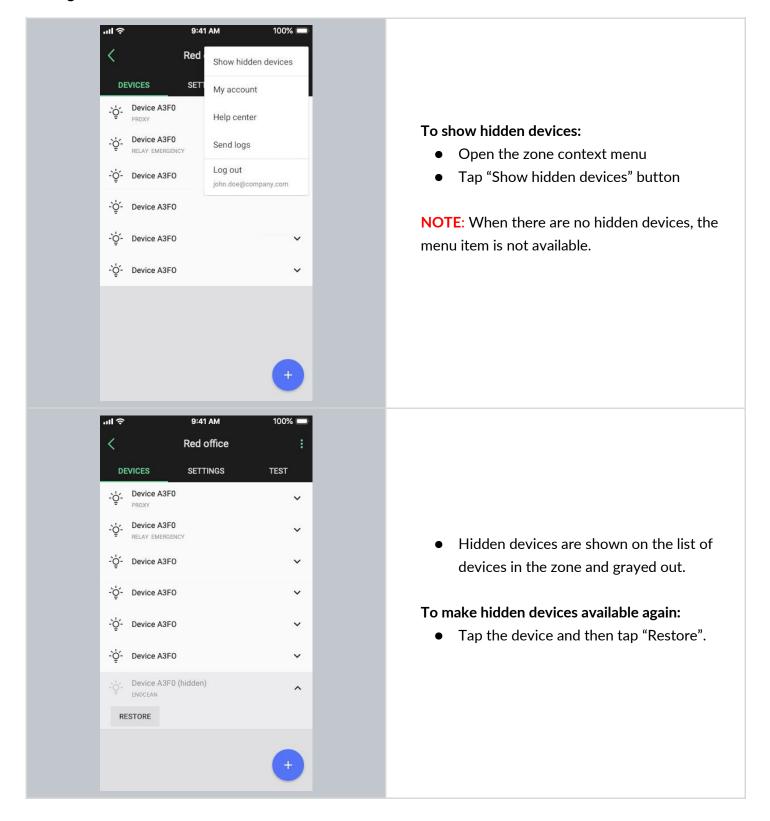
When you choose to remove a device but the app cannot communicate with it, the removal process cannot be completed. In this case, the app will ask whether you want to hide the device so that it is no longer visible in the list of available devices and commissioning reports. Tap "HIDE" to remove the unresponsive device from the list.



NOTE: Make sure to hide only those devices that are faulty or have been removed from the project manually (via physical uninstallation or hardware reset). Be aware that a device can be hidden without resetting it, and it will continue working with its most recent control scenario. To remove such a device from the network, see the next section.



Making hidden devices available





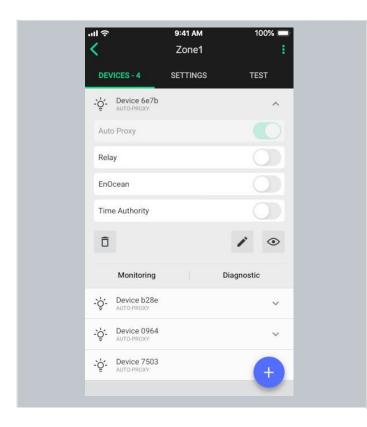
Remove devices that have no access to the mesh network

To remove devices that are grayed out in the mobile app because they have no access to the mesh network, continue as follows.

- 1. Perform one of the following steps:
 - Add a new device to the zone.
 - Reset a device from the zone and add it to the zone again.
 - i. Refer to the device datasheet for instructions about how to reset the device. In most cases you need to press and hold a reset button for some time. But some devices have a switch that triggers a reset when a magnet is applied to them. When the reset is triggered, the status LED will flash every one second. After the reset is complete, the status LED will flash every 0.3 seconds.
 - ii. Add this device to the zone again.
- 2. Make sure that the device is set up to act as a "Proxy".
- 3. Remove all devices that were intended to be removed.
- 4. Remove the proxy device.

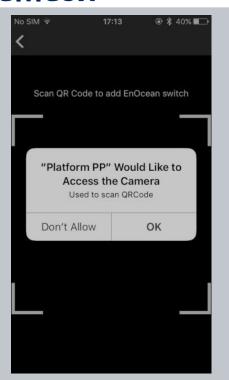
EnOcean switch commissioning

Adding an energy harvesting EnOcean BLE switch to a zone allows it to control the lights in a zone. Because an EnOcean switch cannot communicate over the Bluetooth mesh protocol, you must select at least one of the devices already in the network to act as an EnOcean adapter for the switch.



- Go to the "DEVICES" tab.
- (iOS/iPadOS) Select a device you want to act as an EnOcean adapter for the EnOcean switch, and tap the "EnOcean" toggle switch to enable it as the EnOcean adapter.
- (Android) Tap to open the context menu of the device you want to act as an Enocean adapter, and tap "Enable EnOcean".





The app will ask for permission to access the camera. Select **OK**.

Point the camera at the QR code on the back of the EnOcean switch or on its packaging.

The app will automatically read the QR code and configure the device appropriately.



"This device is not supported" on a Snack bar:

If the EnOcean device selected is incompatible, an incompatibility Snack bar will be displayed when scanning such a device.



NOTE: The EnOcean switch can be removed from the zone at any time by disabling the EnOcean option for the device(s) acting as its adapter.

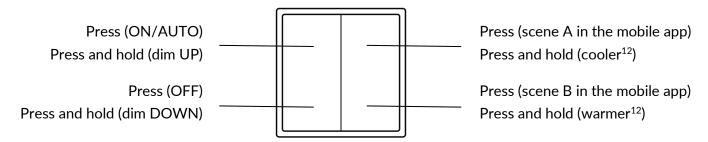


NOTE: Multiple zones can be controlled with a single EnOcean BLE switch by enabling the EnOcean adapter for one device in each zone. All such devices must be within the range of the EnOcean BLE switch that controls them.



Use of the EnOcean switch

EnOcean BLE switches are automatically configured as follows. The left button is used for manual control (ON/AUTO / OFF) and dimming (dim UP/DOWN). The right button (if available) is used to recall scenes (scene A, scene B; if configured) and control color temperature (cooler/warmer).



for all manual and automatic modes.

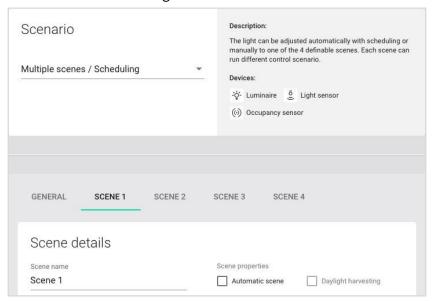
If the *Multiple scenes / Scheduling* scenario is selected for the zone, the *press* action of the right button will be different. For more information, see <u>Operation with a Multiple scenes / Scheduling</u> scenario.

¹² Only for zones with compatible tunable white fixtures and BlueMesh firmware version 1.35 or later. Otherwise, the *press and hold* action of the right button will not work.

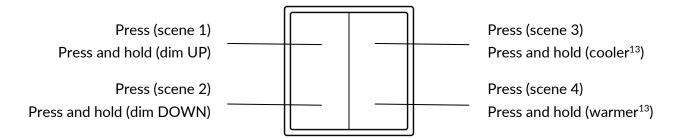


Operation with a Multiple scenes / Scheduling scenario

An EnOcean switch operates differently when used with a Multiple scenes / Scheduling scenario that is set in the BlueMesh web app. The scenario allows you to define up to four scenes to recall. Each scene can specify a different automatic behavior, for example with different light levels to maintain. The scenes can be recalled manually with the EnOcean switch or scheduling.



In the Multiple scenes / Scheduling scenario, the press action is used to recall scenes (scene 1 and scene 2, and if the right button is available: scene 3, scene 4). The press and hold action of the left button is used for dimming (dim UP/DOWN). The press and hold action of the right button (if available) is used to control color temperature (cooler/warmer).



¹³ Only for zones with compatible tunable white fixtures and the BlueMesh firmware version 1.35 or later. In different cases, the press and hold action of the right button will not work.



Example behavior of EnOcean switch in various scenarios

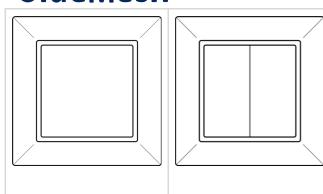
Scenario	EnOcean switch behavior			
Manual control All luminaires are switched on and off manually with a wall switch	No automatic control. The light is adjusted only with the switch buttons. Manual ON/AUTO – sets the light to the <i>Default light level</i> specified in the profile settings. Manual OFF – sets the light level to 0%. After changing the light behavior (OFF, dim UP, dim DOWN, Scene A, or Scene B), the previous settings can be restored only manually. Manual override timeout is not available.			
Occupancy and Vacancy scenarios Occupancy: All luminaires are switched on when motion is detected and switched off when no motion is detected for a given time. Vacancy: All luminaires are switched on manually with a wall switch and switched off automatically when no motion is detected for a given time.	 Pressing ON/AUTO sets the light to the Occupied mode level, which is maintained for a defined Timeout. Manual override timeout is available. Triggered after changing the light behavior (OFF, dim UP, dim DOWN, Scene A, or Scene B). Timer is reset after detecting occupancy in the room. Example: Manual override timeout is set to 10 minutes. User presses OFF and leaves the room. Case 1: Occupancy in the room is not detected for 10 minutes. The light goes back to the default settings. Case 2: Occupancy in the room is detected after 3 minutes. The timer is reset and starts counting down again from 10 minutes. 			
Multiple scenes / Scheduling The light can be adjusted automatically with scheduling or manually to one of the four definable scenes. Each scene can run a different control scenario.	 Four scenes recalled by pressing the switch buttons. Dimming available by pressing and holding the left switch button. Manual override timeout is not available. 			

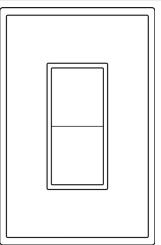
Manual override timeout defines a time of vacancy after which the light goes back to its default settings. For example, if any scene is recalled using the switch and the defined time of vacancy passes, the light goes back to its default settings.

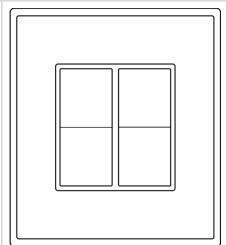
For more information about scenarios, see <u>Scenario parameters for customization</u>.

Supported EnOcean switch models

Easyfit Sing	gle Easyfit Do	ouble Easyfit Sing	gle Easyfit Doubl	е
(EWSSB)	(EWSD	OB) (ESRPB)	(EDRPB)	







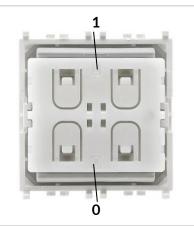
The BlueMesh lighting system supports mainly switches based on the EnOcean BLE Switch Module (PTM 216B and PTM 215B).



To make sure that switches operate as intended, install the EnOcean BLE Switch Module so that the '1' mark is above the '0' mark.

To find more BlueMesh-enabled EnOcean switches, go to https://BlueMesh.us

EnOcean BLE Switch Module (PTM 216B / PTM 215B)





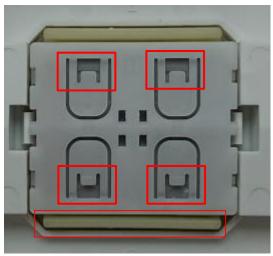
Reset an EnOcean switch

If an EnOcean switch has been reconfigured to use other protocols, it may not work correctly with the BlueMesh firmware and must be reset to factory settings. To reset the switch to its factory settings, continue as follows.

1. Disassemble the cover and the buttons.



- 2. At the same time press and hold four button contacts and the yellow tab. Make sure that you hear a click when you press the tab.
- 3. Wait at least 10 seconds and release the contacts and the tab.
- 4. Assign the switch to a zone by <u>setting a</u> <u>device as an EnOcean adapter</u>.



Sync the time in the mesh network (for iOS/iPadOS)

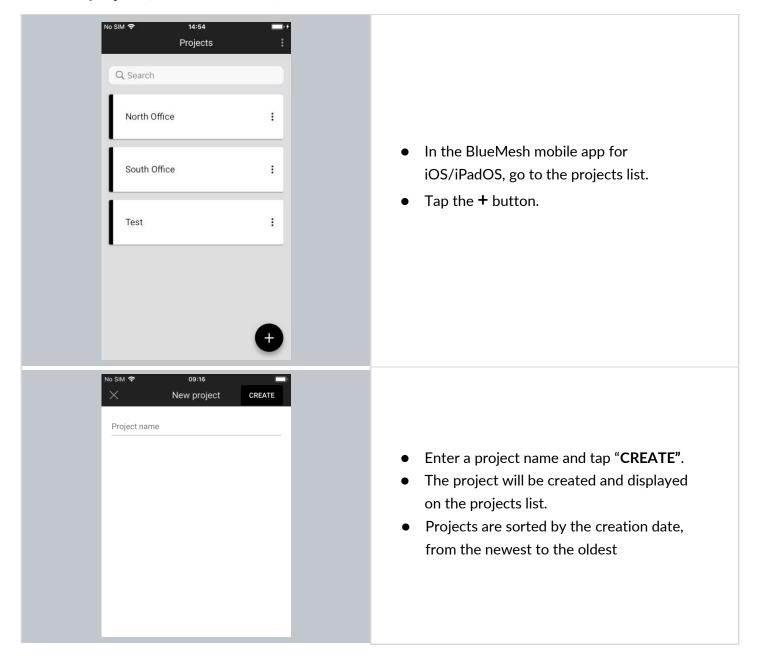
- 1. Open the BlueMesh mobile app for iOS/iPadOS.
- 2. In the project field, tap and select **Time sync**.
- 3. Tap **Sync time** to sync the time between the mobile device and the mesh network.



4. Commissioning on-site without using the web app (for iOS/iPadOS)

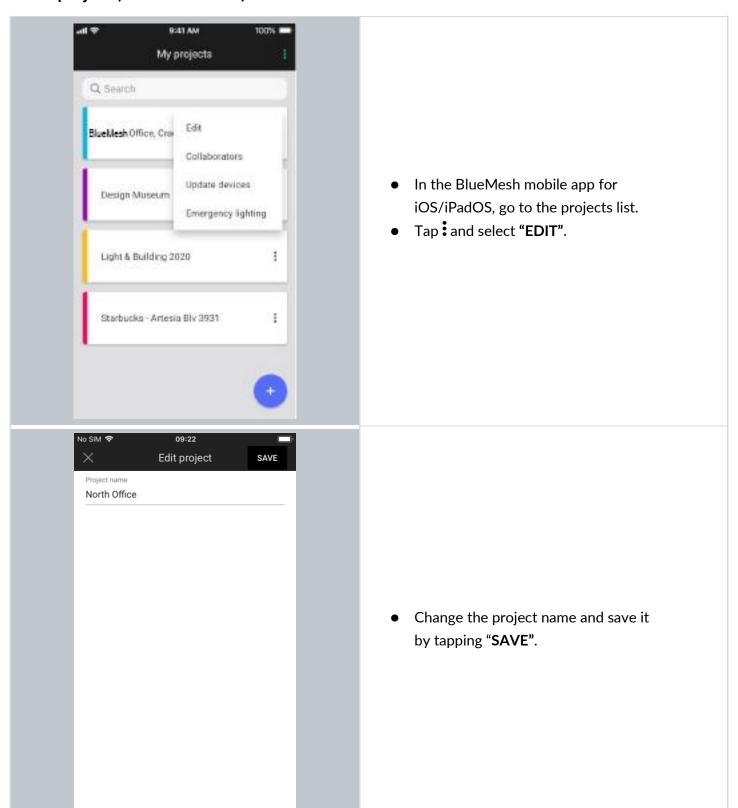
The BlueMesh mobile app for iOS/iPadOS supports some basic project management features such as creating projects, creating areas, and creating and editing zones, allowing you to commission an installation without having to first prepare a plan in the web app. It means that the basic commissioning steps can be performed on an iOS/iPadOS mobile device without opening the BlueMesh web app account.

Create a project (for iOS/iPadOS)



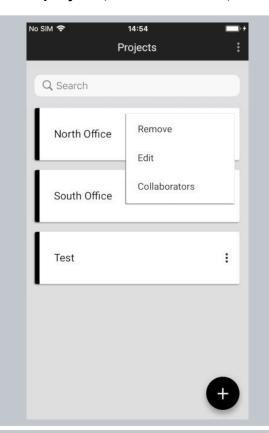


Edit a project (for iOS/iPadOS)

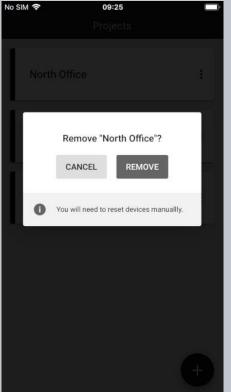




Remove a project (for iOS/iPadOS)

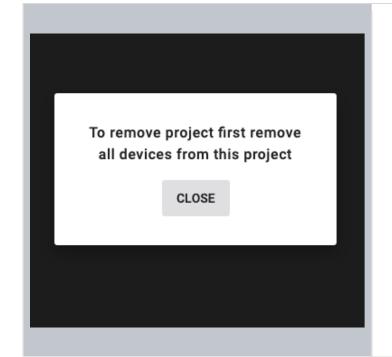


- In the BlueMesh mobile app for iOS/iPadOS, go to the projects list.
- Tap and select "REMOVE".



In the confirmation popup, tap "**REMOVE**". To prevent accidental removal of the project, the button will be available after 3 seconds.

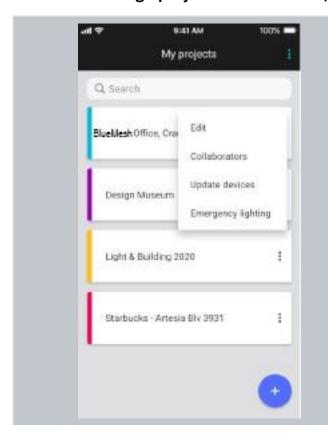
The project will be removed and can no longer be accessed by any users collaborating on it.



Note: You are not able to remove a project with active devices. Before doing it you need to remove all devices.

For more information on how to do that, see Remove device.

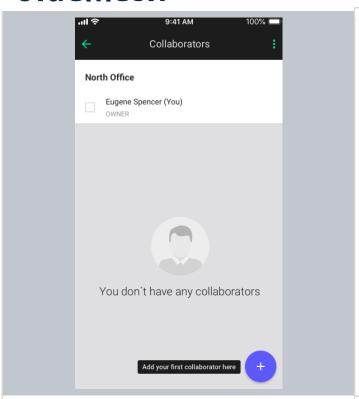
Invite and manage project collaborators (for iOS/iPadOS)



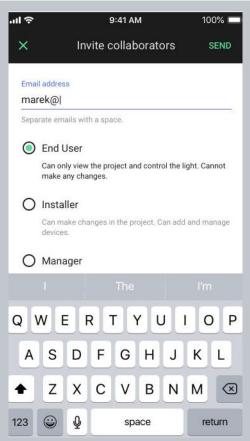
Multiple users can collaborate on a project by creating and editing the commissioning plan and, most importantly, in carrying out on-site commissioning thereby shortening the most critical part of the whole project.

There are four user roles supported in the commissioning apps: owner, manager, end user and installer. To get more information about specific roles, see <u>User roles</u>.

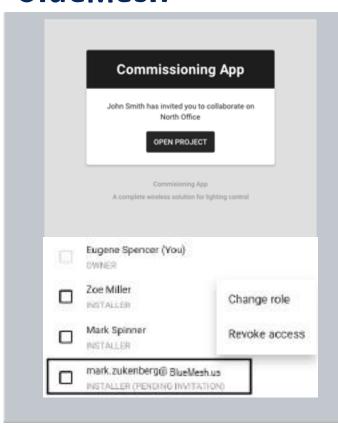
In the BlueMesh mobile app for iOS/iPadOS, go to to the selected project, tap ; and select "COLLABORATORS".



On the list of collaborators, tap the + button.

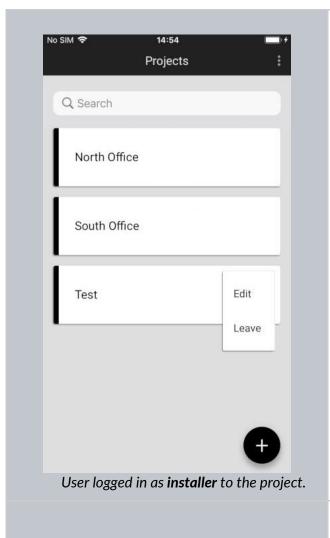


- Enter one or more email addresses to invite collaborators and share access to the project.
- Select the level of access for the user you're inviting.
 - End user is the default selection for a newly invited user. It can be changed by tapping the installer or manager roles below.
 - O If you're an owner or a manager of the project, you can select a new user to be a manager, installer, or end user.
 - If you are an installer or end user, you do not have access to the invite collaborators view.



- All users invited to collaborate will receive an invitation email with a link to the shared project.
- Accessing the project requires the user to have a registered BlueMesh web app account. Anyone without an account will be labeled with "Pending invitation" on the list of collaborators.

Change or transfer user role (for iOS/iPadOS)



The BlueMesh mobile app for iOS/iPadOS allows you to change the role of another project collaborator using the mobile app. This is possible only if there's more than one collaborator added to the project.

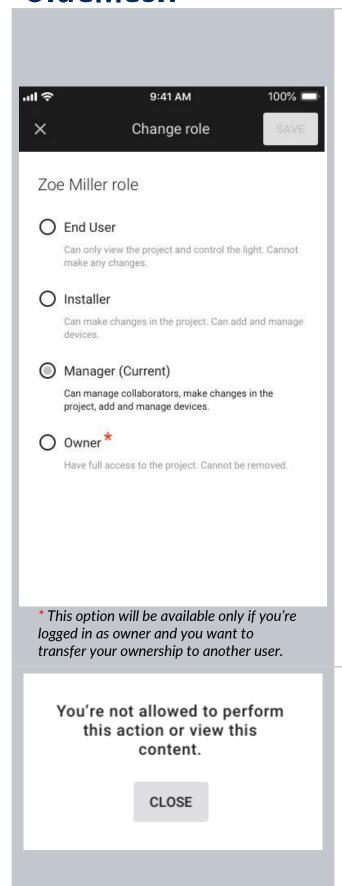
Changing roles is possible only for users who have the following roles:

- Owner
- Manager

NOTE:

- Installers or end users <u>do not</u> have access to the collaborators view.
- When a user is logged in as installer / end user, they will not see the "Collaborators" button after pressing the project menu.
- They can only edit the project name or leave the project.

Change user role



- To change the role (available only for owner/manager role), select the correct project on the projects list, tap and select "Collaborators".
- Tap next to the username and select "Change role".

Eugene Spencer (You) OWNER Zoe Miller INSTALLER Change role Mark Spinner INSTALLER Revoke access

Select the desired role:

North Office

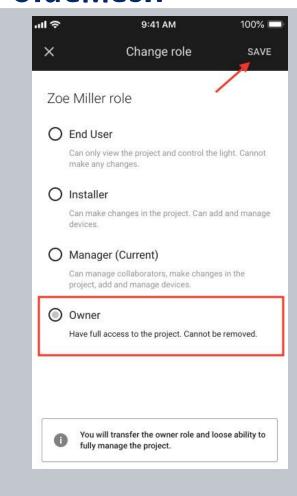
- Manager
- Installer
- Owner
- End User

Press "Save" to confirm. "User role has changed" dialog will be displayed.

You can also change user roles in the web app.

NOTE:

- If a collaborator's role was changed from manager/owner to installer or end user, this user will no longer be able to see the collaborators view in the app.
- The alert on the left is shown to the user whose role has been changed to installer / end user immediately after changing their role.
- After closing the alert, they will no longer be able to see the collaborators list.



Transferring project ownership

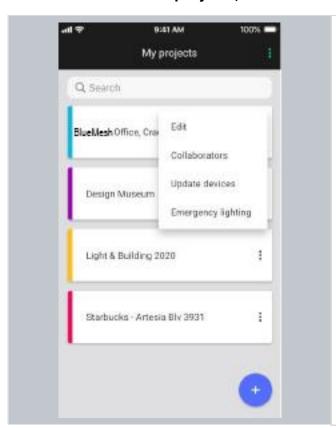
NOTE: This option is available only for "**owner**" users.

- If you're logged in as owner, you can transfer your project's ownership to another user.
- The new user who received the transfer will become a new owner. The former owner of a project will no longer have access to the project.
- To transfer the ownership:
 - O Log into the mobile app as owner
 - Select the project
 - o Tap and select **COLLABORATORS**
 - O Tap again next to another username
 - o Select "Change role"
 - O Select "Owner" as a new role
 - o Confirm by pressing SAVE button
 - O You will see the below success message

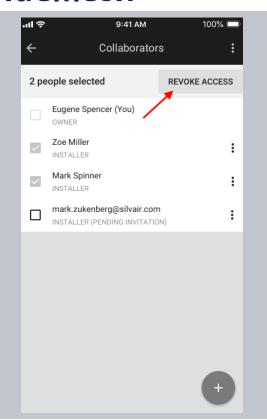


Project ownership transferred

Revoke access to the project (for iOS/iPadOS)

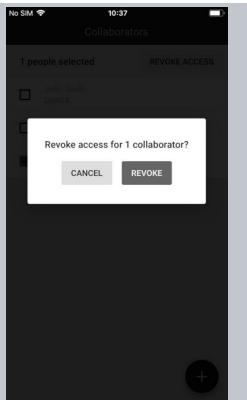


In the BlueMesh mobile app for iOS/iPadOS, tap and select "COLLABORATORS".



Select checkboxes to select one or more collaborators.

Tap "REVOKE ACCESS".



Confirm by pressing "**REVOKE**" on the popup window.

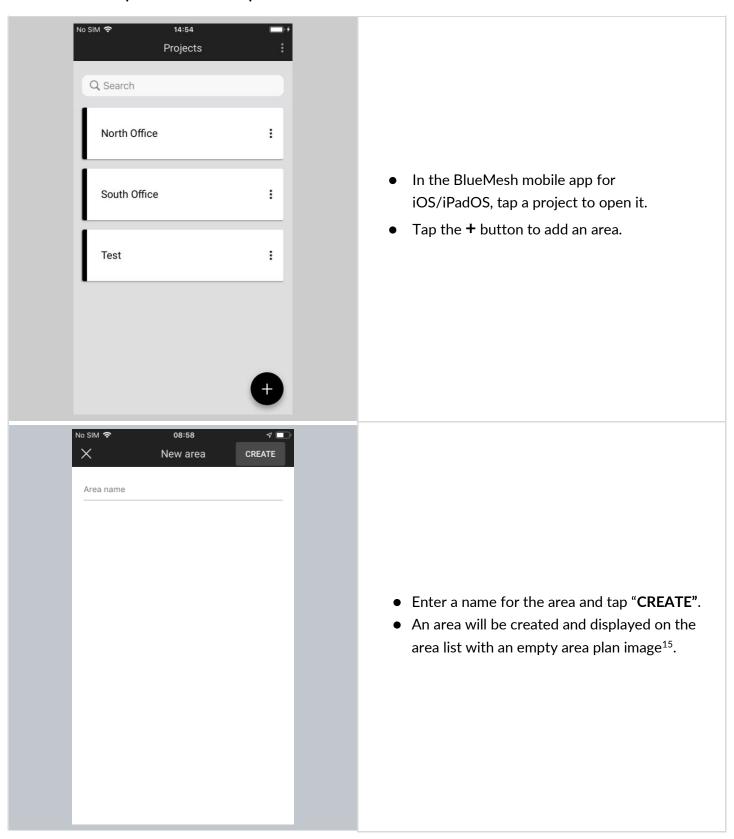
TO TO

NOTE: Selected users will be removed from the project and will no longer have access to it from the web app and the mobile app.¹⁴

¹⁴ BlueMesh prevents the last collaborator from being removed from the project as there must always be at least one user with access to the project. The owner must transfer ownership to another collaborator before being able to leave the project.



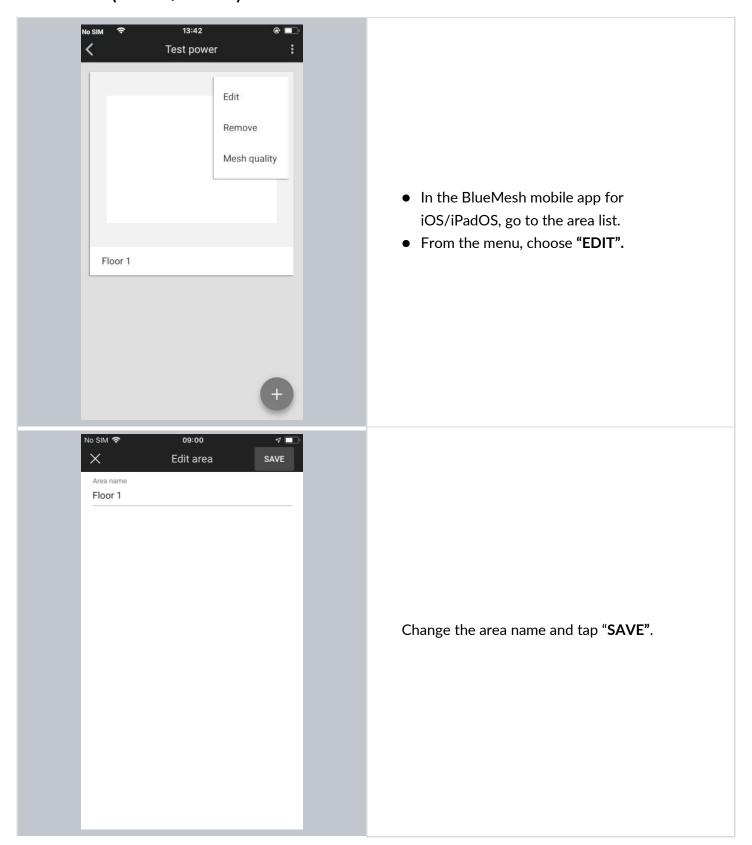
Create an area (for iOS/iPadOS)



 $^{^{15}}$ It is not possible to upload a plan to a project using a mobile app - this can only be done via the <u>BlueMesh web app.</u>

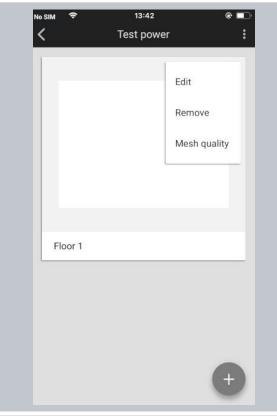


Edit an area (for iOS/iPadOS)

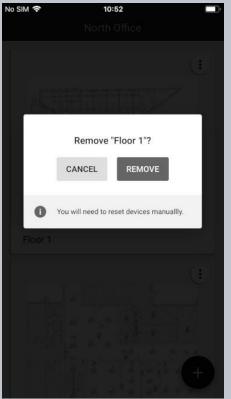




Remove an area (for iOS/iPadOS)



- In the BlueMesh mobile app for iOS/iPadOS, go to the project.
- From the menu, choose "REMOVE".



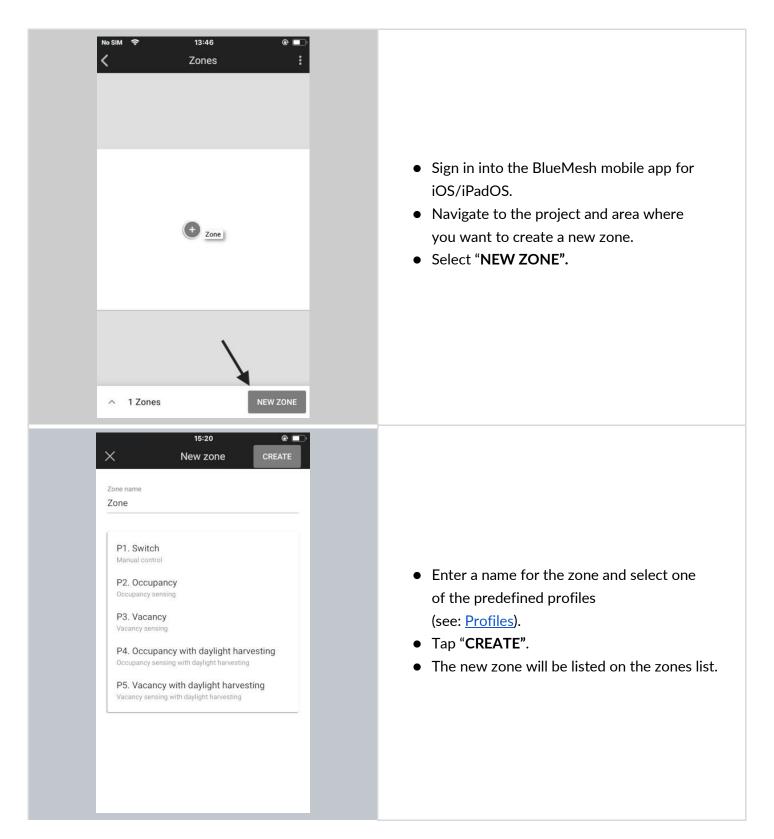
Confirm your decision by clicking "REMOVE" on the confirmation popup. In order to prevent accidental removal of the area, the button will be available after 3 seconds.

NOTE: You are not able to remove an area with active devices. Before doing it you need to remove all devices. For more information on how to do that, go to the section "Remove device".



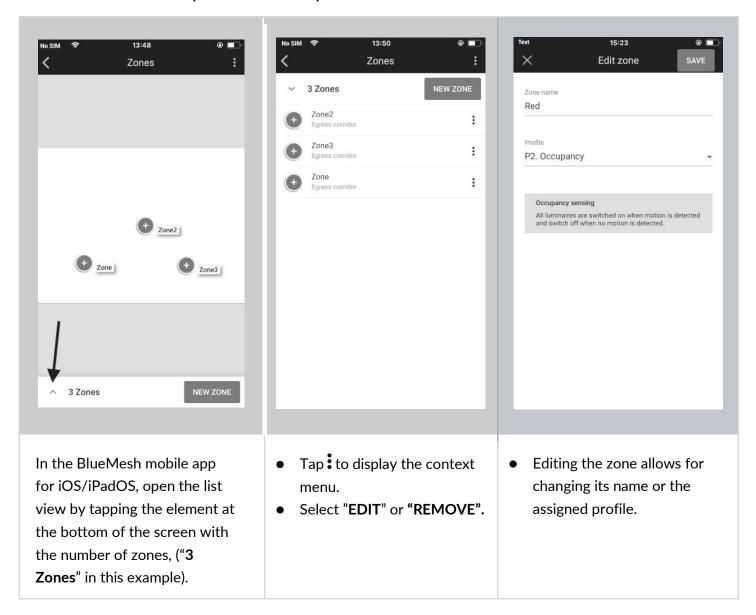
Create a zone (for iOS/iPadOS)

The BlueMesh mobile app for iOS/iPadOS also allows you to create new zones on-the-fly.





Edit or remove a zone (for iOS/iPadOS)





NOTE: You are not able to remove a zone with active devices. Before doing it you need to remove all devices.

This is the last step of the commissioning without using the BlueMesh web app.

The next steps to make your lighting project work is <u>adding devices</u> to the newly created zones. Go back to <u>Commissioning on-site</u> to continue reading about <u>adding devices</u> and the next steps.



5. Gateway commissioning

The BlueMesh gateway enables communication between the network and the cloud. Adding a gateway to a project enables the following features:

- 1. Gateway-based scheduling
- 2. Energy and Occupancy monitoring
- 3. Low-latency monitoring and remote control

A gateway can be added to the project with the Commissioning web app.

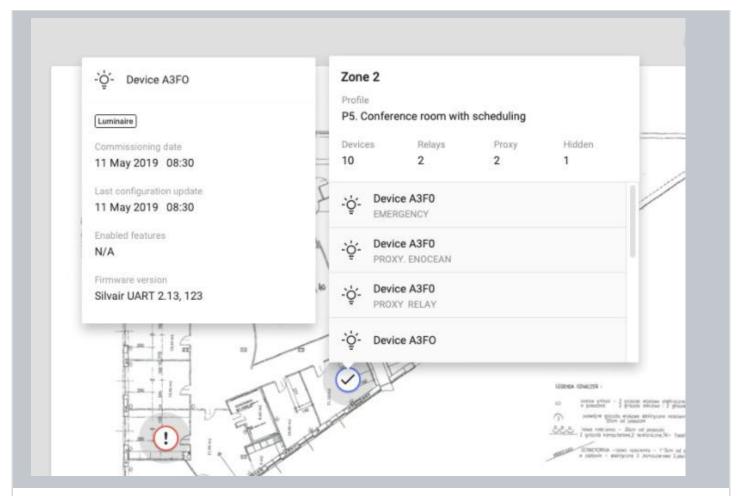


For more information about the gateway, see the <u>BMW-102 BlueMesh Gateway user guide</u>.



6. Commissioning status and troubleshooting

Check commissioning status



The status of commissioning can be checked at any time using the BlueMesh web app which displays the status of each zone (see: <u>Zones</u>), as well as a summary for each zone that contains:

- Name of the Profile assigned to the Zone
- O Scenario that the profile is based on
- Alerts (when available) including errors and warnings
- O Devices number of mesh devices added to the zone
- O Relays number of devices with the Relay feature enabled
- O Proxy number of devices with the Proxy function enabled
- O List of devices added to the zone with their functions:
 - PROXY a device with the proxy function enabled
 - RELAY a device with the relay function enabled
 - ENOCEAN a device with the EnOcean adapter function enabled
 - ALS the light sensor selected to control the zone
 - EMERGENCY a device with emergency lighting function

HINT: Zone details can be opened with *CMD* + *left click* shortcut on Mac OS or *CTRL* + *left click* on other systems.





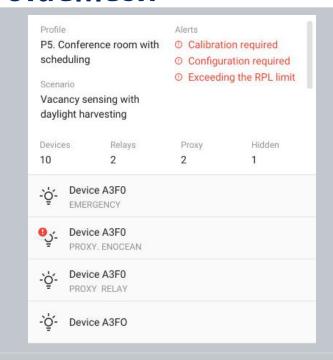
Device details

After clicking on the device name, its details will be displayed.

It contains:

- Device function:
 - o Luminaire
 - Occupancy sensor
 - Light sensor
 - o Emergency
- Commissioning date the date when the device was added to the zone
- Last configuration update the date of the last device configuration
- Enabled features the list of features enabled in the device
 - O N/A none of the features are enabled
 - o Proxy
 - o Relay
 - o EnOcean
 - o ALS
- EnOcean key the key of the EnOcean bluetooth switch paired with the device
- Firmware version the current firmware version in the device
- Alerts (see the section below)

blueMesh



Zone alerts

A list of alerts may be displayed in red on the right. It means that an action is required from your side. You can find more details in the Commissioning alerts section.

Alerts

- Some features are not supported by the device and may not work as expected.
- Risk of exceeding the RPL limit.
 Please check User manual.

Device alerts

Alerts are displayed in red at the bottom of the list. It means that an action is required from the user's side. You can find more details in the Commissioning alerts section.



Commissioning alerts: errors and warnings

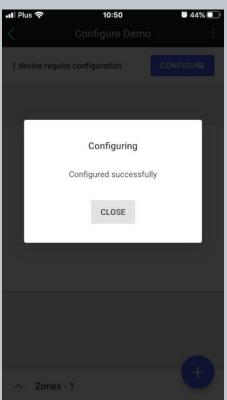
Area alerts



Configure all devices in an area (for iOS/iPadOS)

If there are unconfigured devices in the area, the "Configure" button is displayed with the number of devices that require configuration.

- Select the area
- Tap "CONFIGURE" to start the configuration



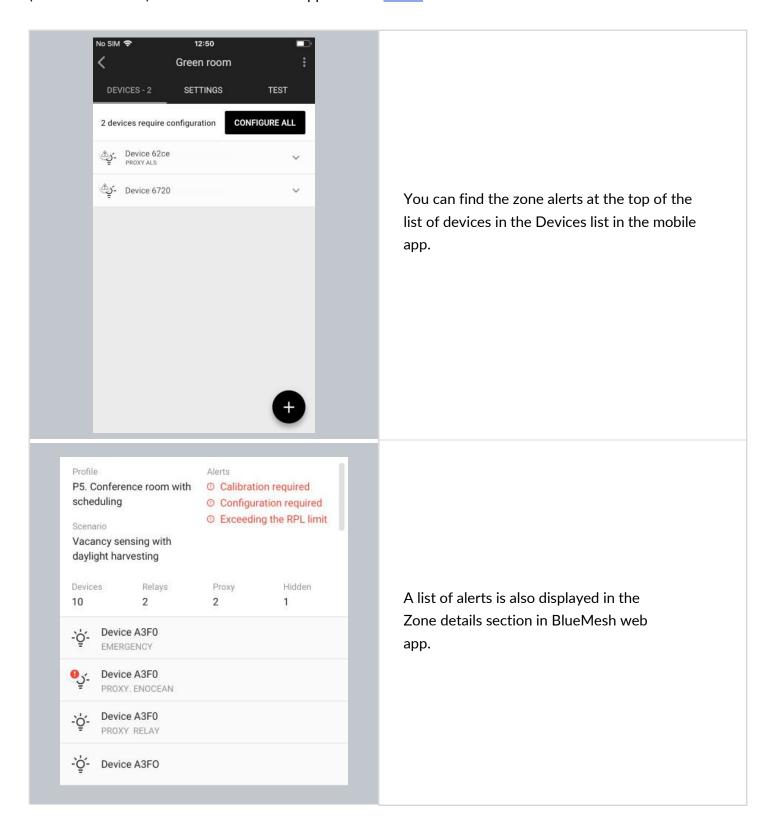
NOTE: If the configuration was not successful, go to the zone and check the alerts.

For more information, see "Zone alerts" in the next section.

Zone alerts



Zones are represented on the area floorplan with a circular icon which changes color depending on its status. When the zone has been commissioned but requires attention or action it is displayed as a warning state (exclamation mark) in the web and mobile app. See the <u>Zones</u> section for more information.



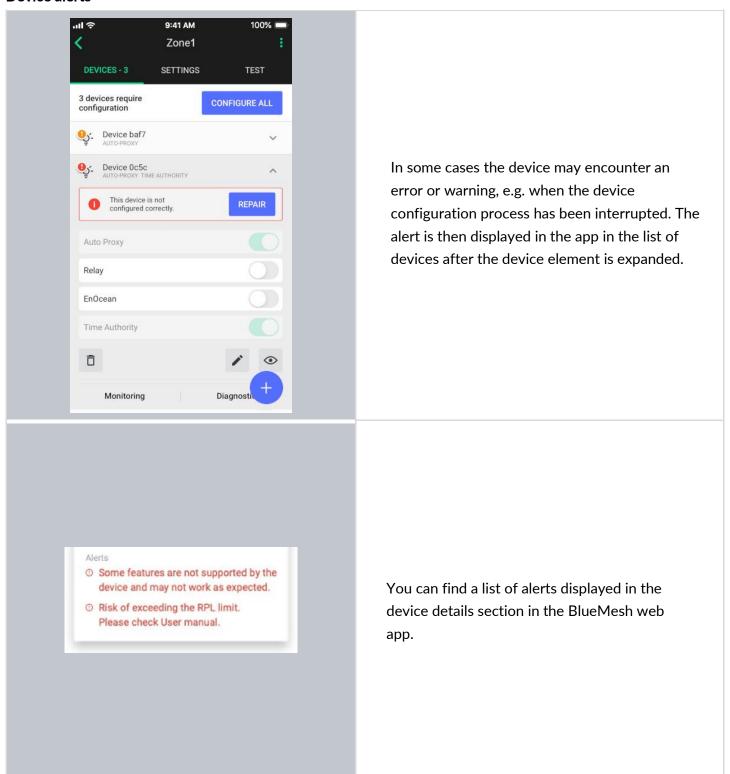
The table below describes possible solutions in the event of a zone alert:



Alert	Possible causes	Solution	
Calibration required	The daylight control in the zone has not been calibrated yet or there is no light sensor selected to control the light in the zone (e.g., the previously selected light sensor has been removed from the zone).	If the zone has a Daylight harvesting based profile, follow <u>Daylight</u> <u>harvesting calibration</u> . If the zone has a Photocell based profile, follow <u>Photocell calibration</u> .	
Configuration required	 There has been a connection error (e.g., Internet problems) during the configuration process or configuration has been interrupted (e.g. the mobile phone lost power). Zone settings have been changed (e.g. changing profile, changing scenario settings, adding/editing zone linking). The project version has been updated and the zone configuration was modified by the new version. 	Use the mobile app to configure the device manually. Follow the steps in Configure all devices in a zone.	
Scenes configuration required	 Scenes in the zones were not configured correctly or scene configuration was interrupted. A device has been added to the zone. 	Configure scenes. Follow the steps in <u>Scenes setup</u> .	
Risk of exceeding the RPL limit	 The user may be affected by RPL (Replay Protection List) error when there is a risk that the RPL limit may be exceeded. It may show up when: Adding device to the zone (a luminaire, a sensor or a switch) Configuring a device (due to a change in scenario or zone linking) Connecting to the project using a new mobile app 	Contact support@BlueMesh.us for assistance and recommendations suited to your project.	



Device alerts



The table below describes possible solutions when a device alert has been raised:

Alert	Possible cause	Solution	

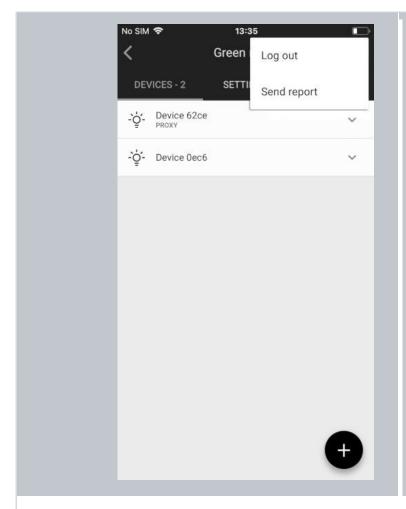


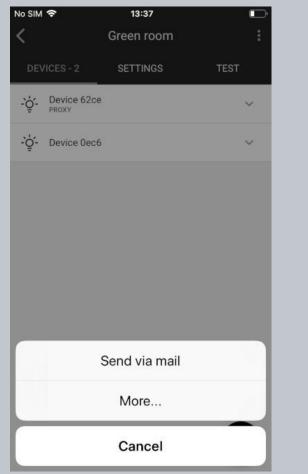
Some features are not supported by the device and may not work as expected.	The device may not fully support the features required by the control profile or the BlueMesh app and may not work as expected, e.g. some features have not been provided by the device manufacturer or the device firmware version is not up-to-date.	Check if the device has the newest firmware installed. If not, update the firmware. Full information about OTA (Over-the-air) update and configuration details is available in <u>BMN-208 OTA</u> <u>firmware update for provisioned</u> <u>devices</u> .
Risk of exceeding the RPL limit. Please check User manual.	 There is a risk that the RPL (Replay Protection List) limit may be exceeded. It may show up when: Adding device to the zone (a luminaire, a sensor or a switch) Configuring a device (due to changed scenario, or changed zone linking) Connecting to the project using a new mobile app 	Contact support@BlueMesh.us for assistance and recommendations suited to your project.
This device is not configured correctly.	The configuration of the device may have failed or been interrupted.	Repair the device. See Repair device.
The scenes on this device are not configured correctly.	The configuration of scenes may have failed.	Configure scenes. See <u>Scenes</u> <u>setup</u> .



Send diagnostic report

In the event of any unexpected behavior when commissioning devices, you can send the app logs to BlueMesh for further analysis.





- 1. In the upper right corner, select **Send report** from the menu.
- 2. Choose how the logs will be sent (by email is the default).
- 3. Briefly describe the problem (optional, but it helps).
- 4. Send the report.



Commissioning report

The report can be downloaded from the web app in HTML format and includes key details of the current state of the project.

Project summary

Details

A list of important terms:		
Commissioned on	Date from - the date when the first device was added to the project (the device may still not be in the project)	
	Date to - the date when the last device was added to the project (the device may still not be in the project) Example: 20 February 2024 - 23 March 2024	
Last update	The date of the last change in the project. Changes in the Area, Zones, Devices added to the project or configuration does not affect this date. <i>Example</i> : 11 May 2024 10:12	
Mesh devices	The number of mesh devices added to the project	
EnOcean switches	The number of EnOcean switches added to the project (number of unique EnOcean keys)	
Mesh quality	The result of a mesh quality test for this area	

Mesh devices

A list of important terms:		
Luminaires	Number of devices categorized as luminaire (controller)	
Occupancy sensors	Number of devices categorized as Occupancy sensor (sensor model with the right property id)	
Light sensors	Number of devices categorized as light sensor (sensor model with the right property id)	
Emergency devices	Number of devices categorized as Emergency device (Emergency lighting model)	
EnOcean adapters	Number of devices with the EnOcean feature enabled (EnOcean switch paired, key assigned)	
Proxies	Number of devices with the Proxy feature enabled	
Relays	Number of devices with the Relay feature enabled	
ALS	Number of the light sensor devices selected as leading sensors controlling the zone	

• List of areas with basic details



Areas summary

Floorplan image



HINT: Click the circle with the zone number to move to the section with details of the selected zone.

- Details
- Summary of mesh devices in area
- Mesh quality test result
- List of zones with basic details

NOTE: Indexes of zones, profiles may vary (not be consistent) between the reports. For example, if you download the report again after deleting one zone, the numbering of the other zones will change accordingly.

Zones summary

- Details
- Summary of mesh devices in zone
- List of devices with basic details
- EnOcean switches



A list of important terms:		
Scenario	Name of the scenario used in the profile	
Devices	Number of devices in the zones with the profile assigned	
Zones	Number of the zones with the profile assigned	
Settings	Array of parameters used in the scenario	
Scenes	Scenes A and B settings	

Scheduling summary

Zone linking summary

A list of important terms:		
Zone name Name of the zone with zone linking settings		
Controlled by switches in zones	List of zones from which switches control this Zone.	
Controlled by occupancy sensors in zones	List of zones from which sensors control this Zone.	

Energy monitoring summary

Energy profiles

Gateways summary

Mesh quality summary

- Summary table with all areas and their mesh quality test results (areas will be shown as OUT OF DATE if a device has been added/removed or the relay function / network configuration has been changed after mesh quality tests)
- Areas summary (not shown if the area is NOT TESTED or OUT OF DATE)
 - Floorplan image
 - o Details
 - Summary of mesh quality test results
 - O List of zones with their mesh quality test results
- Zones summary (not shown if the area is NOT TESTED or OUT OF DATE)
 - O List of devices with their mesh quality test results

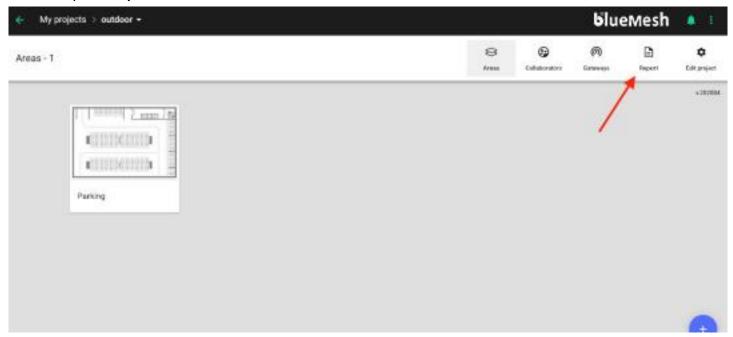
List of collaborators in the project



Downloading the commissioning report

You can download the commissioning report using the web app.

- 1. Select the project for which you want to download the report.
- 2. Tap the **Report** button.



- 3. Confirm by pressing the **DOWNLOAD** button.
- 4. The report will download in HTML file format.



7. Document revisions

Revision	Date	Editor	Changes
1.35	24 October 2024	GM	Clarified the description of the "Low/high-end trim" function. Removed that "Motion sensitivity adjustment" is available only for iOS/iPadOS. Defined the "Fade in" time for scenes.



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