BlueMesh Industrial

Commissioning

User Manual

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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 app[1], 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. **To start with BlueMesh Commissioning, please create an account in our web app.**
- **The BlueMesh mobile app**[2], which is used on site to commission the devices with the commissioning plan set up earlier in the BlueMesh web app.
  It also has the basic features for managing a project, so it can also be used to perform fine-tuning of a large project or the commissioning of small projects.

  BlueMesh mobile App lets the user to create a commissioning project without using the web app. This way of commissioning is done only with the mobile app, but it has more limited settings than creating a commissioning plan in the web app

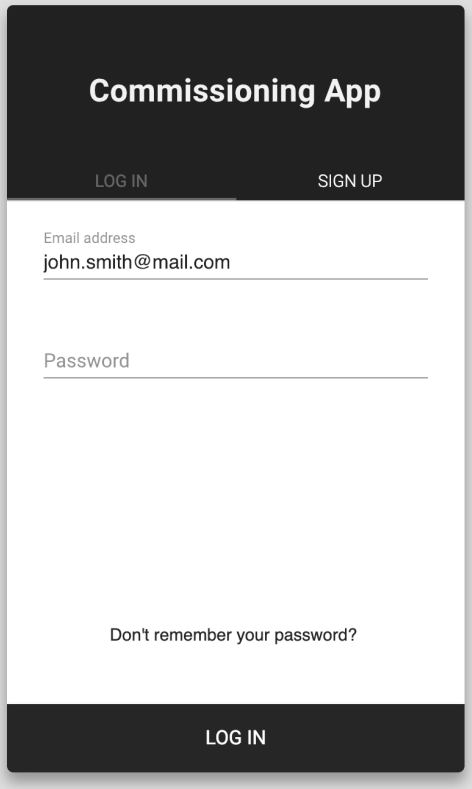
This document describes how to use the BlueMesh web and mobile apps for commissioning , i.e.:

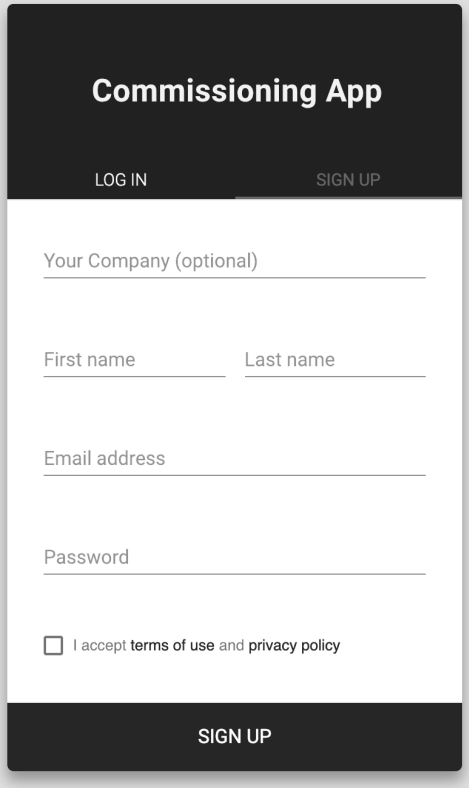
- Create an account and sign in.
- Create a commissioning plan with the BlueMesh web app.
- Commission the installed system with the BlueMesh mobile app.

[1] The BlueMesh web app requires the Chrome browser v. 70 and an internet connection.
[2] The BlueMesh mobile app requires an iOS device with iOS 12+ and Bluetooth enabled as well as an internet connection - minimum 3G (WiFi or cellular).

2. Creating a commissioning plan

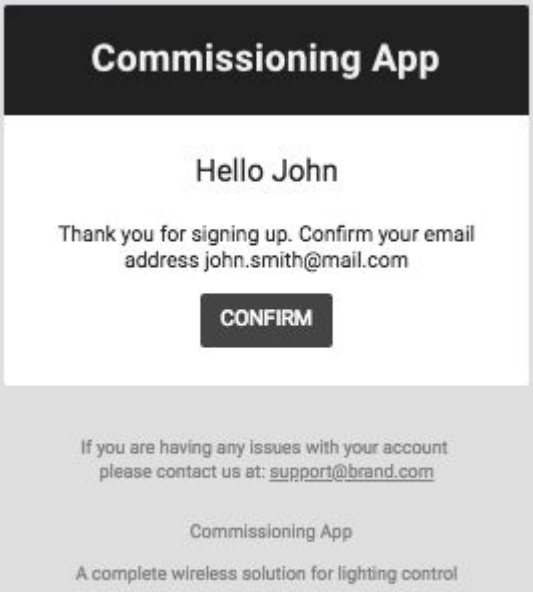
Log in & sign up





For new users: visit BlueMesh web app industry.bluemesh.ca and create a new account. To do it, open **"SIGN UP"** tab and enter your details. Accept the terms of use and privacy policy and click **"SIGN UP"**.

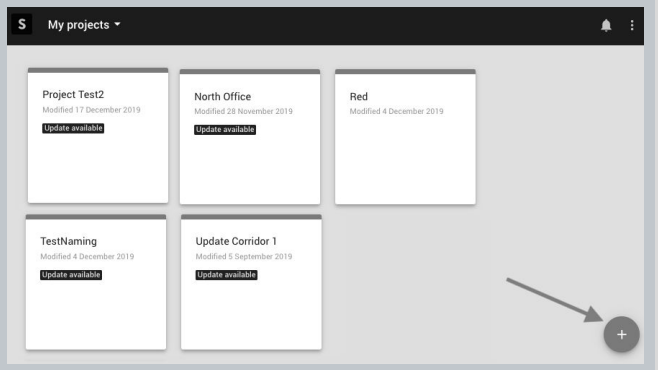
If you are an existing user, go to the BlueMesh web app at industry.bluemesh.ca
enter your registration email address and password and **LOG IN**



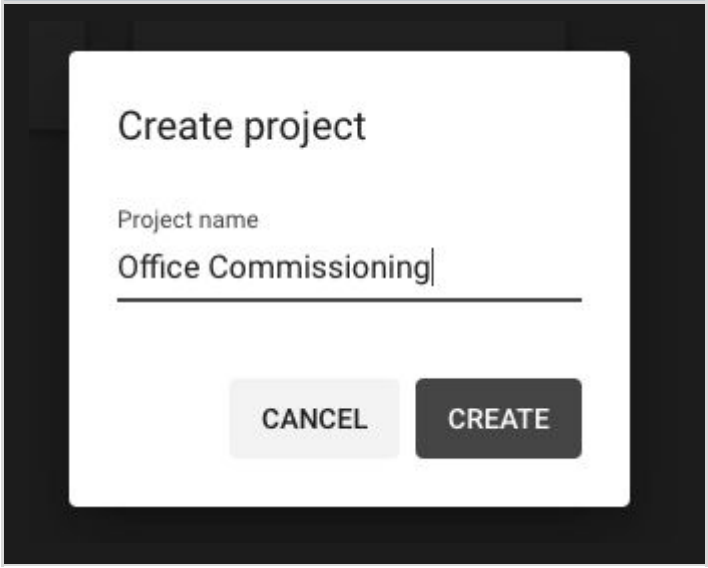
- For new users: once you have signed up, check your email for the confirmation email (subject: " BlueMesh .
  Verify your email"). Follow the steps in the email to confirm your email address. **"CONFIRM"** and you will be directed to the web app, which should automatically open in the "My projects" view.

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 start by creating a new project (click **“CREATE PROJECT”**).



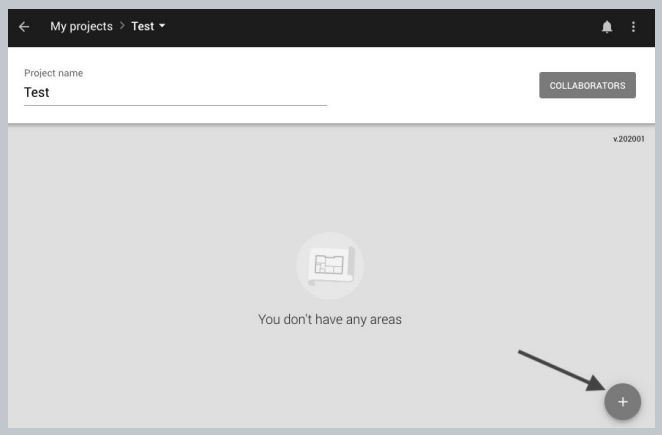
- Enter the project name and click **“CREATE”**.
- You will see your new project appear in the list.

☞ **NOTE:** By default, the user who creates the project becomes its owner and is marked as such on the collaborators list (see: Invite & manage project collaborators)

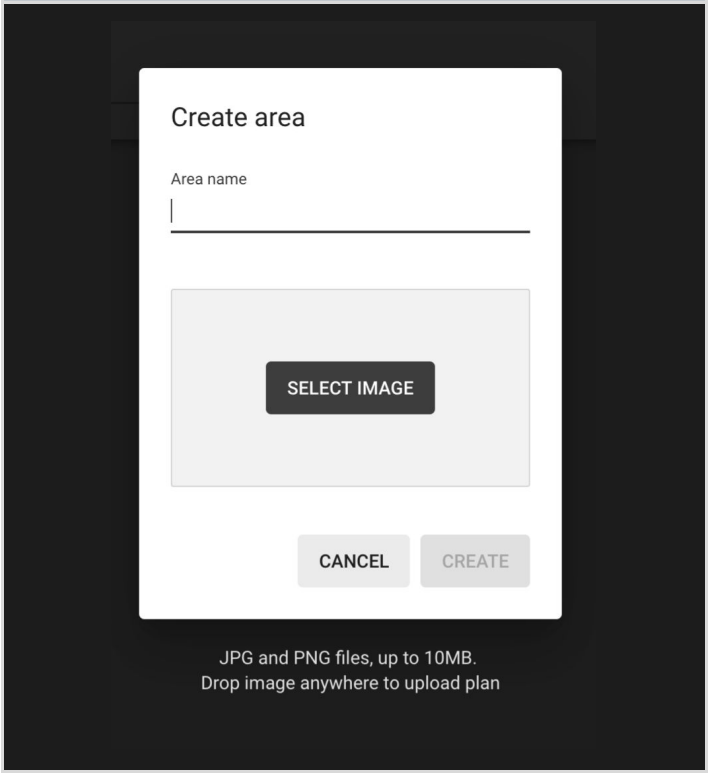
☞ **NOTE:** A project represents a single mesh network, so any devices added to this project will automatically be part of the same network.

Upload and edit the area

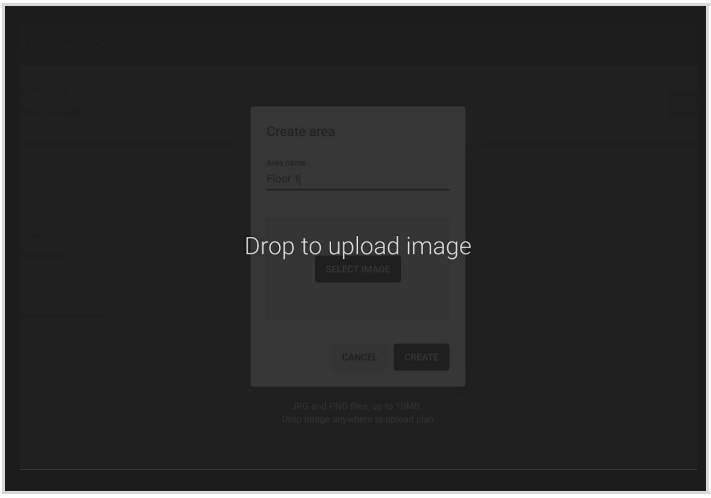
Create areas in your projects. This will allow to add various zones to the plan and locate them in the building.



Every commissioning plan must have at least one area. To create an area, click "**CREATE AREA"** on the project screen.



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



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

Replace a plan

Select the project you want to edit and navigate to the plan you want to update.

Click the menu icon ⋮ to make changes.

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

To edit the area, select the area you want to update and then right-click on the plan.

You can also replace the plan by dragging an image file from your desktop or hard drive onto the existing plan.

Zones

Devices (i.e. 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.

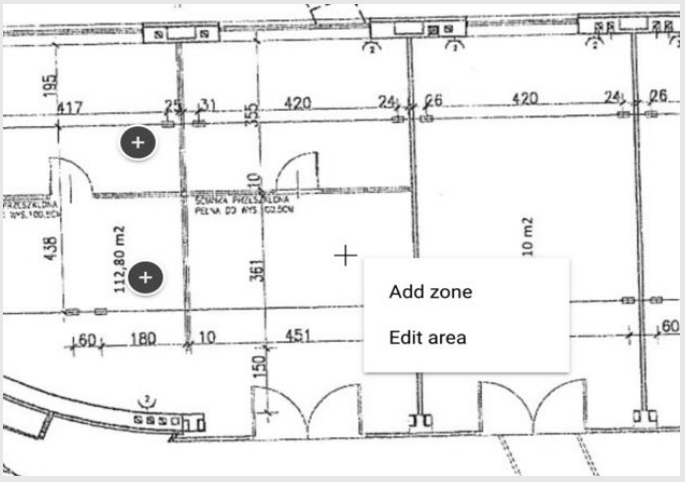
The BlueMesh web and mobile apps are synced, so any progress or problems that occur during commissioning are reflected in both interfaces.

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

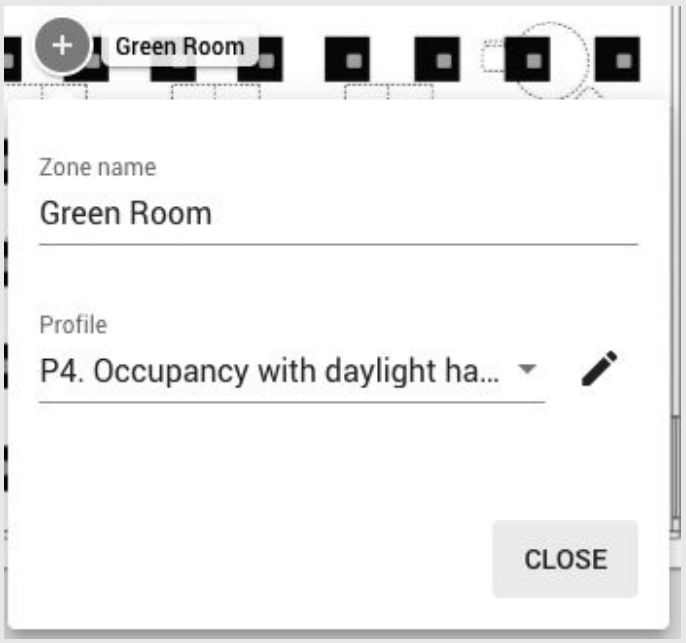
	DRAFT— when a zone has been created but the profile has not been selected[3]
	**READY TO BE COMMISSIONED** — when the profile has been selected and the zone is ready to be commissioned on site (with the BlueMesh mobile app).
	**COMMISSIONED** — when devices in the zone have been commissioned: devices 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 application.

Create a zone



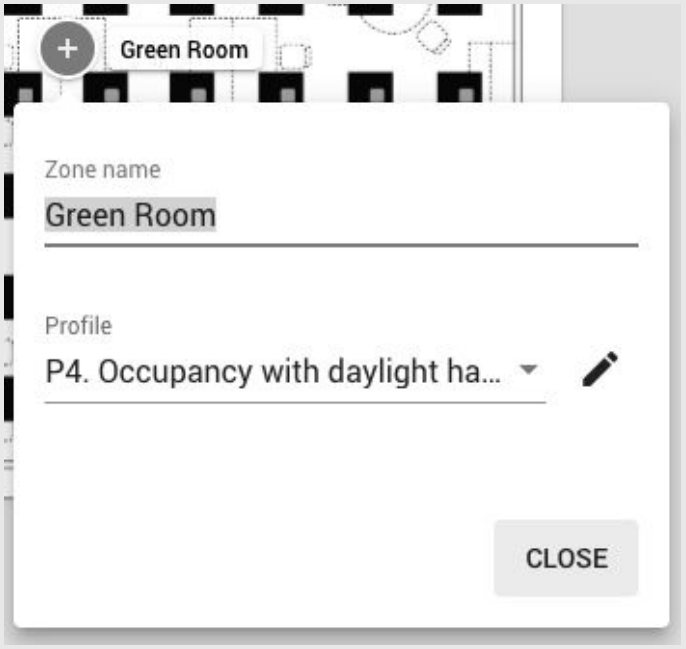
- Navigate to the area view, left click on the floor-plan in a place where you want the zone to be created and add zone.
- You can also right click on the floor-plan and select "**Add zone**" from the dropdown.



- 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 zone name, or select a profile), it will not be created. To save the zone - change zone's name, and add profile. Those actions are automatically saved .

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

Edit a zone

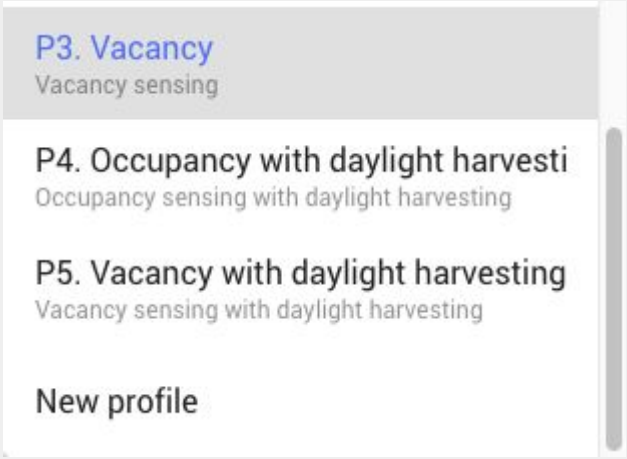


- Editing a zone can be done in two ways:
- **Right click the zone icon.**
  - Press "**EDIT**" button
  - Enter a name, e.g. Conference Room, select the desired profile e.g. Occupancy.
  - Click the pencil button to the right of the PROFILE to start editing profile settings.
  - Click "**CLOSE**" to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

Profiles

BlueMesh Commissioning lets you set up 7 types of profiles, each of them can be customized as needed (see: Customize profile). New profiles can also be created. Each zone must have an assigned profile in order to be commissioned. Profiles can be added when user creates, or edits a zone.



- After right clicking on a zone from the floor-plan view and pressing **Edit**, expand the list of available profiles. For your convenience. under each profile there is a scenario label (this shows the scenario in which this profile operates).
- Select a profile, you can edit this profile settings' later.
- At the bottom of the list there is an option that allows to create a new profile, if none of the proposed profiles is good for you.

☞ **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: Scenes setup). 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: Using the EnOcean switch).

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 come back 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

[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.

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).

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.

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.

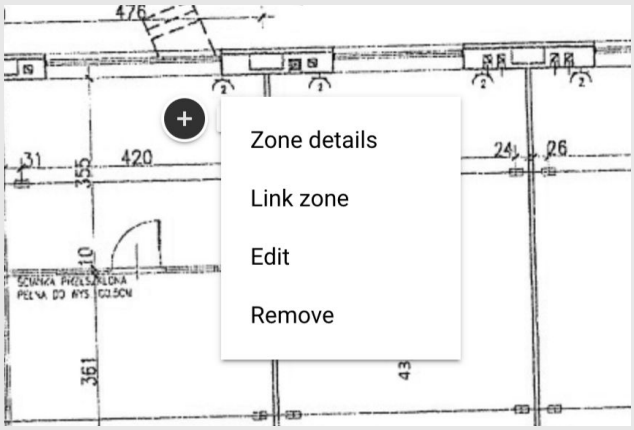
Central control, Central control for dual output

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.

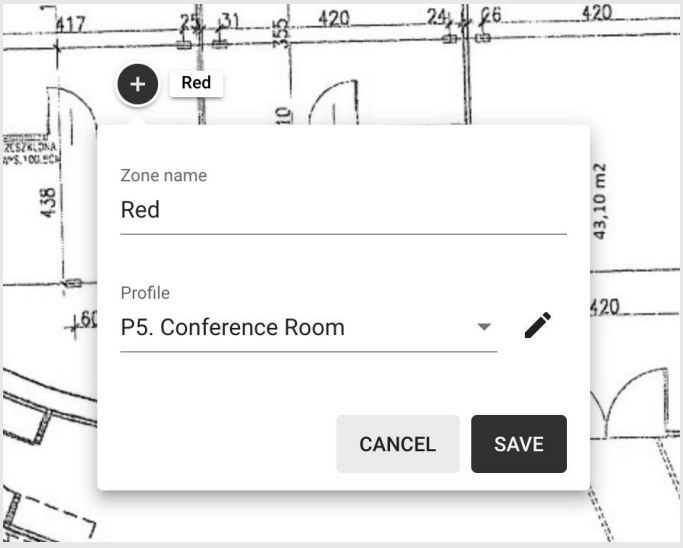
In case of Central control for dual output scenario, one group of devices is controlled centrally and second is controlled locally.

Customize a profile

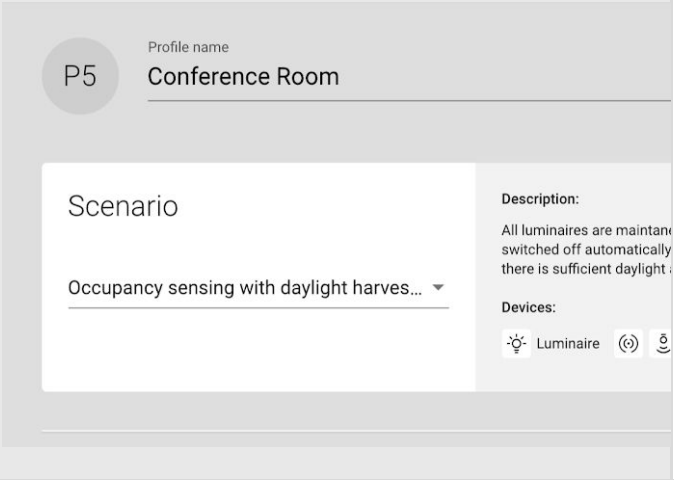
Each profile can be customized by changing its settings to the desired values.



Open the correct plan, right-click the zone icon (e.g. **+** icon) and select **"EDIT"**.

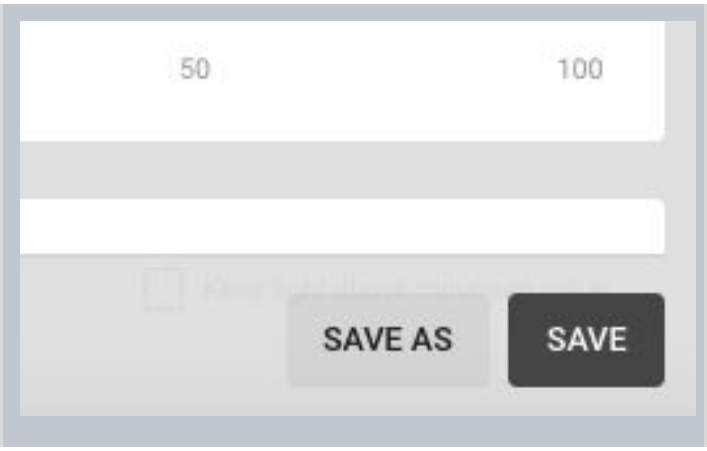


Click the **"EDIT"** pen icon to open the profile customization options.

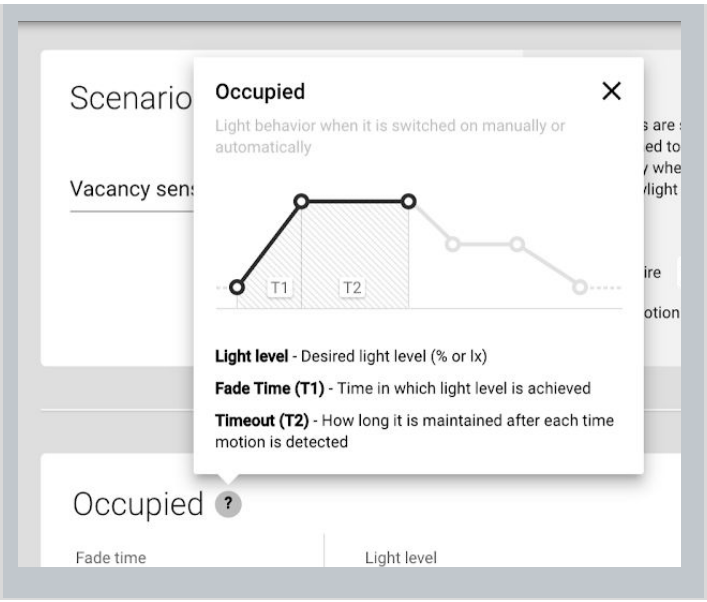


- Change the **SCENARIO,** which defines the basic behavior of the zone.[5]
- Customize the available scenario parameters (the displayed set of parameters depends on the type of scenario which is assigned to the profile.
- Rename the profile.

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



- Click **"SAVE"** to apply the customized profile to all zones in the project where it is used.
- Click **"SAVE AS"** to save a new profile and apply it only to the zone currently being edited. The new profile can be subsequently applied in other zones.



- Click the question mark icon to see an extended description of all of the parameters on the configuration page.

Scenario parameters for customization

Each profile has multiple parameters that can be changed to customize it to your needs. The available parameters depend on the **Scenario**, which is assigned to the profile. The parameters are described below.

Manual control scenario

Segment	Parameter	Description
Default light level	Light level	Light level when switched on.
	Fade time	The time over which the light reaches the target level when switched on.
Low/high-end trim	Min	The lower limit of the light level that can be reached with automatic or manual control (e.g. with a wall switch).
	Max	The upper limit of the light level that can be reached with automatic or manual control (e.g. with a wall switch).
Power up behavior	Keep light off	The light will remain off on power up.
	Restore	The light will return to the last level before power failure.
	Defined light level	The light will come on at this light level on power up.

Vacancy sensing & Occupancy sensing scenarios

Occupied	Light level	Light level when switched on.
	Timeout	The time for which the light is maintained at the defined level when switched on. The timer is reset each time motion is detected.
	Fade time	The 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	The time for which the light is maintained at the Prolonged mode Light Level after Occupied mode timeout.
	Fade time	The time over which Prolonged mode light level is achieved after 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	The time over which the Vacant mode light level is achieved after Prolonged mode timeout.

Low/high-end trim	Min	The lower limit of light level achievable via automatic or manual control (e.g. with a wall switch).
	Max	The upper limit of light level achievable via automatic or manual control (e.g. with a wall switch).
Power up behavior	Keep light off	The light will remain off on power up.
	Restore	The light will return to the last level before power failure.
	Defined light level	The light will come on at this light level on power up.
Manual override timeout	Time	Define the length of time (in minutes) after which the light will switch itself to default settings. Example: Manual override timeout is set to 10 minutes. When I 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.

Occupancy sensing with daylight harvesting scenario

Occupied	Light level	Light level when switched on.
	Timeout	The time for which the light is maintained at the defined level when switched on. The timer is reset each time motion is detected.
	Fade time	The time over which the Occupied mode Light level is achieved.
	Keep light above minimum value	The feature allows to keep 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	The time for which the light is maintained in the Prolonged mode Light level after Occupied mode timeout.
	Fade time	The time over which Prolonged mode light level is achieved after Occupied mode timeout.
	Keep light above minimum value	The feature allows to keep 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	The time in which Vacant mode light level is achieved

		after Prolonged mode timeout.
	Keep light above minimum value	The feature allows to keep the light in the zone at the minimum value even if sufficient daylight is available.
Low/high-end trim	Min	The lower limit of light level achievable via automatic or manual control (e.g. with a wall switch).
	Max	The upper limit of light level achievable via automatic or manual control (e.g. with a wall switch).
Power up behavior	Keep light off	The light will remain off on power up.
	Restore	The light will return to the last level before power failure.
	Defined light level	The light will switch on to this light level on power up.
Manual override timeout	Time	Define the length of time after which the light will switch itself to default settings. Example: Manual override timeout is set to 10 minutes. When I 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.

Vacancy sensing with daylight harvesting

Occupied	Light level	Light level when switched on.
	Timeout	The time for which the light is maintained at the defined level when switched on. The timer is reset each time motion is detected.
	Fade time	The time in which desired light level is achieved.
	Keep light above minimum value	The feature allows to keep 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	The time for which the light is maintained in the Prolonged mode Light level after Occupied mode timeout.
	Fade time	The time over which Prolonged mode light level is achieved after Occupied mode timeout.
	Keep light above minimum value	The feature allows to keep 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	The time in which Vacant mode light level is achieved after Prolonged mode timeout.
	Keep light above minimum value	The feature allows to keep the light in the zone at the minimum value even if sufficient daylight is available.
Low/high-end trim	Min	The minimum light level achievable via automatic or manual control (e.g. with a wall switch).

	Max	The maximum light level achievable via automatic or manual control (e.g. with a wall switch).
Power up behavior	Keep light off	The light will remain off on power up.
	Restore	The light will restore to the last level before power failure.
	Defined light level	The light will come on at this light level on power up.
Manual override timeout	Time	Define the length of time after which the light will switch itself to default settings. Example: Manual override timeout is set to 10 minutes. When I 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.

Central control

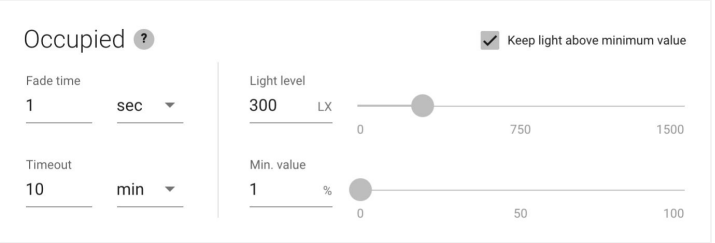
Segment	Parameter	Description
Default light level	Light level	When selected, the light will come on to this level (0-100% light level).
	Fade time	The time over which the light reaches the target level after it is switched on.

Low/high-end trim	Min	The minimum light level that can be adjusted automatically or manually (e.g. with a wall switch).
	Max	The maximum light level that can be achieved. automatically or manually (e.g. with a wall switch).
Power up behavior	Keep light off	The light will remain off on power up.
	Restore	The light will restore to the last level before power failure.
	Defined light level	The light will come on at this light level on power up.

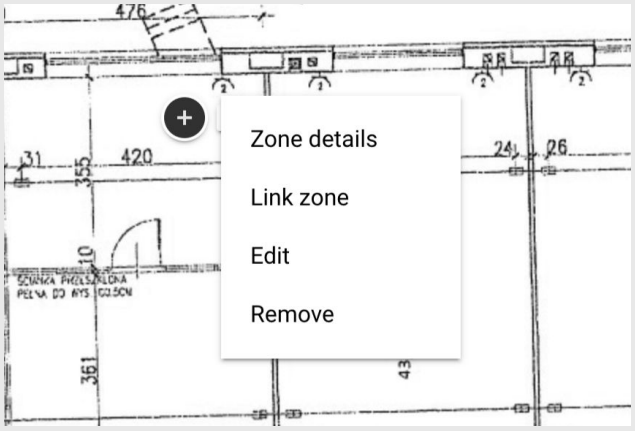
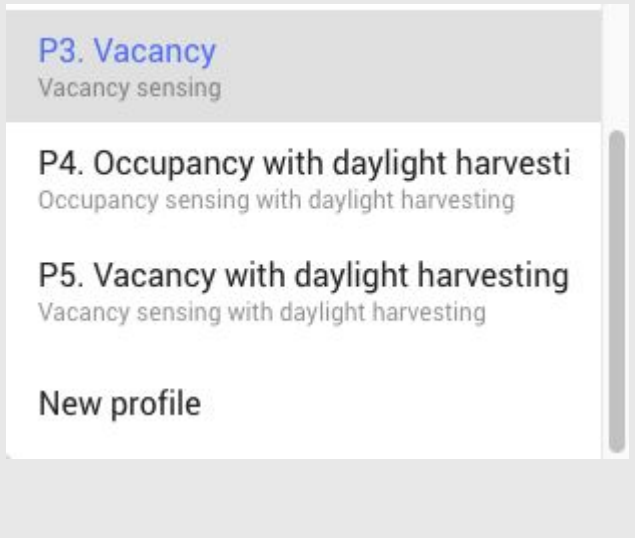
Multiple scenes
Is a scenario that allows you to add 4 customizable scenes in the BlueMesh web app.
It cannot be configured from the mobile BlueMesh app.
You can set a separate name and different values for each scene depending on its properties.

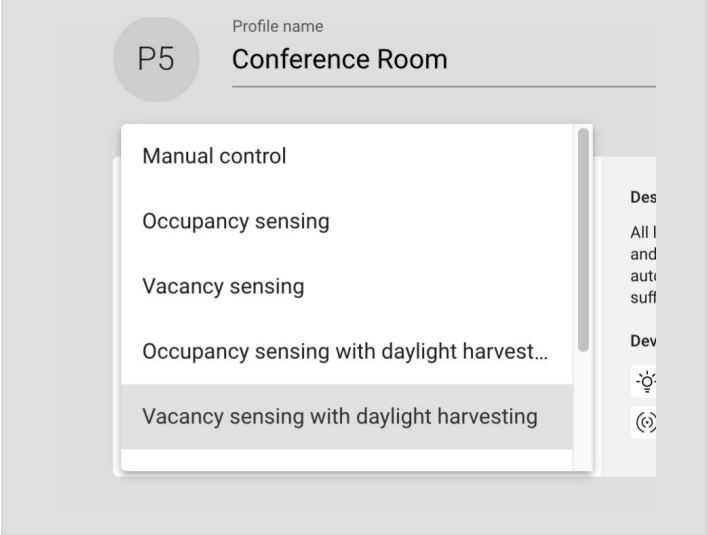
SCENE DETAILS		
Scene name	Click to edit the scene name.	
Scene properties	Static scene	If a static scene is chosen, none of the checkboxes are ticked.  **Scene settings:** Light level: Set the desired light level.

	Automatic scene	 **Scene settings:** Occupied Fade time: the time during which the desired light level is achieved. 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 achieved. Timeout: the time for which the light is maintained at the defined level before switched to Vacant. Light level: the desired light level. Vacant Fade time: the time during which the desired light level is achieved. 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 with 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. 

Create a new scenario

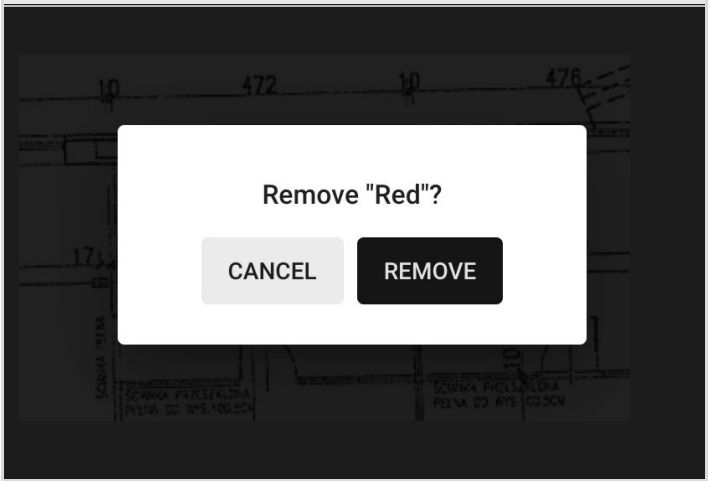
	Open the desired plan, right click the zone and select **“EDIT”**.
	Unfold the “Profile” list and scroll down until you see **“NEW PROFILE”**. Click it to start creating a new profile.



- Enter the profile name.
- Select the scenario to define the basic behaviour of the zone. This determines which parameters are available for customization.
- **“SAVE”** the new profile. It can now be applied to any zone.

Remove a zone

Right click the zone you want to remove and select **“REMOVE”**.



Confirm your decision by clicking **“REMOVE”** on the confirmation pop-up. In order to prevent accidental removal of the zone, the button will be clickable after 3 seconds.

NOTE: When a zone is removed, all devices that were previously added to that zone will require a manual reset. We recommend using the mobile app to reset all devices before removing 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 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 conference room will trigger the lights in corridor. Actions in corridor do not affect the light in conference room.

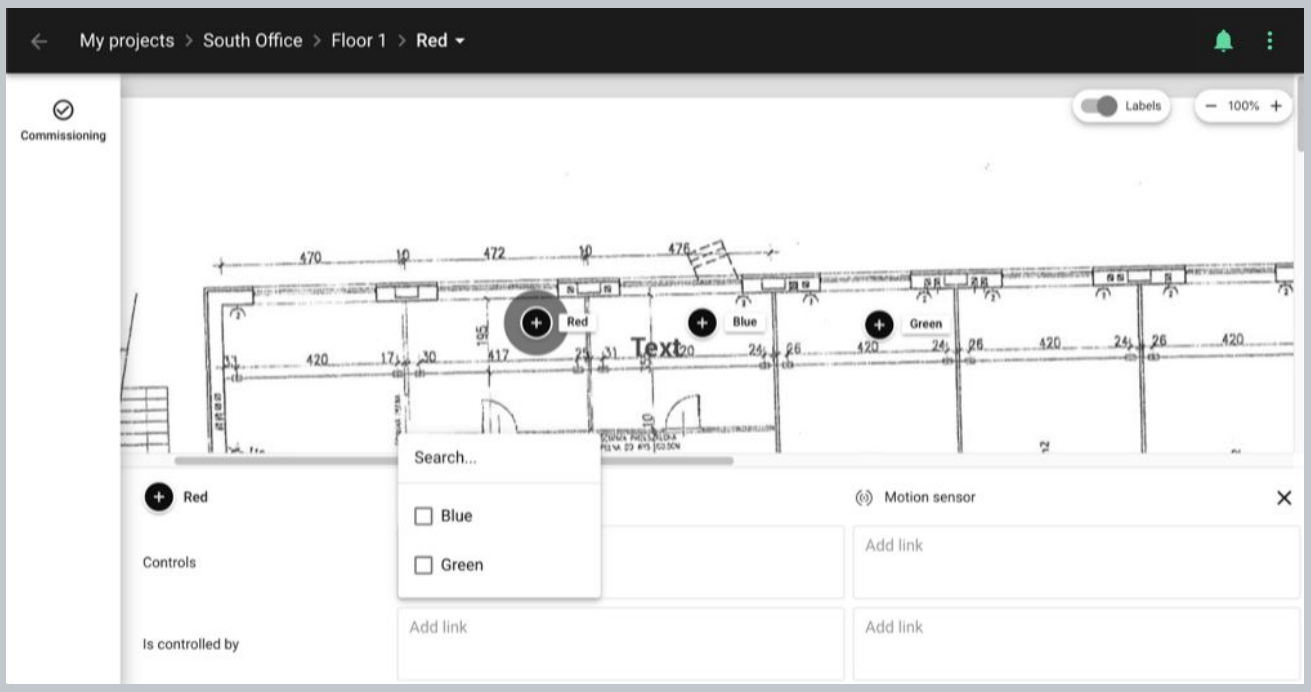
In uni-directional linking, the controlling zone is responsible for adjusting lighting behavior in all linked zones. The signal to turn the lights on or off in linked zones depends on the controlling zone's scenario settings and can be configured with the BlueMesh web app.

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.

Right click the zone and select **“LINK ZONE”**.



Use the panel to link zones by adding them to the appropriate fields in the table.

Switch controls

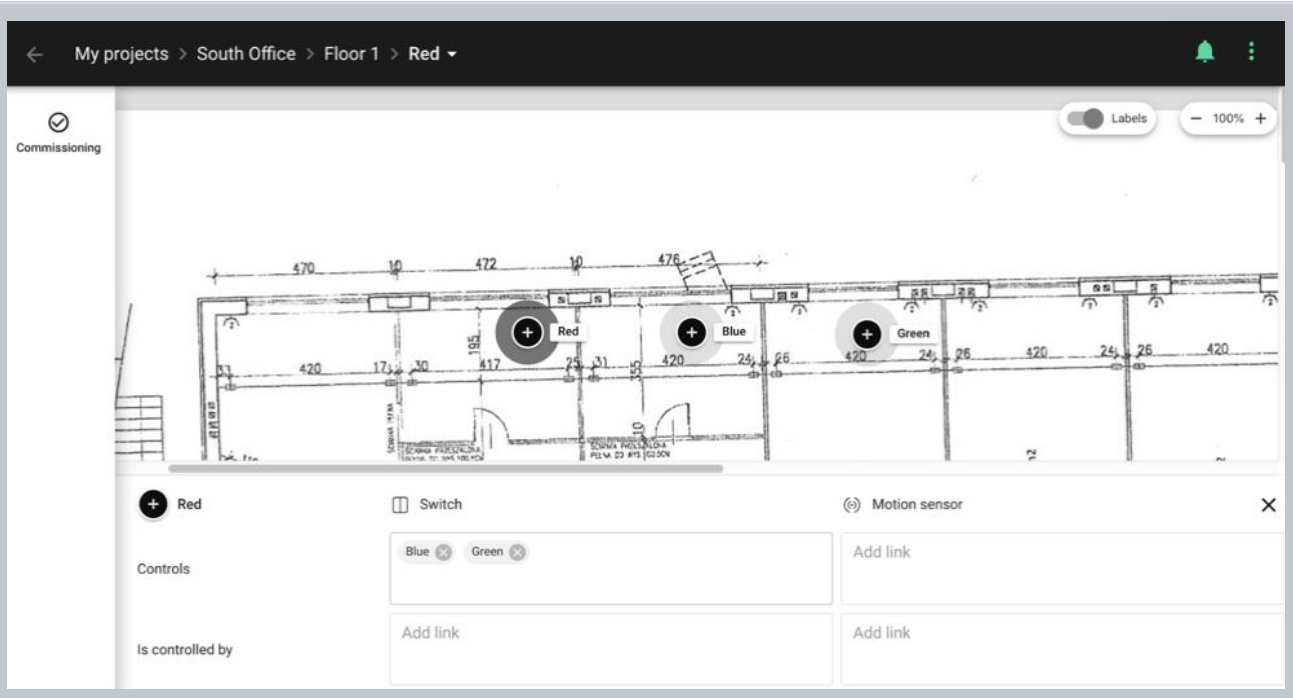
These zones (e.g. zone: Blue, Green) will be controlled by the switch added to the Conference room (zone: Red).

Motion sensor controls

Light in these zones will be controlled by the occupancy sensors added to the Conference room (zone: Red).

(zone: Red) is controlled by a switch	**(zone: Red) is controlled with occupancy**
The switch added to these zones (e.g. zones: Blue, Green) will control the light in the Conference room (zone: Red).	An occupancy sensor added to these zones (e.g. zones: Blue, Green) will control the light in the Conference room (zone: Red) .

You can select another zones on the plan to set up zone linking for them. To finish zone linking, close the panel by clicking the **X** icon in the top right corner, or by clicking on the background.



The links between zones can be visualized by holding your cursor over the panel.

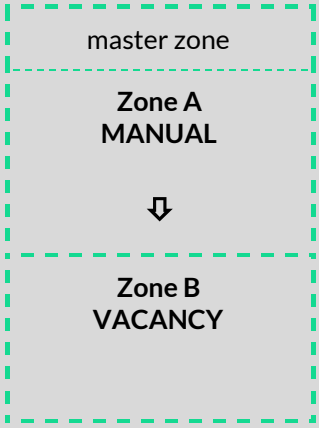
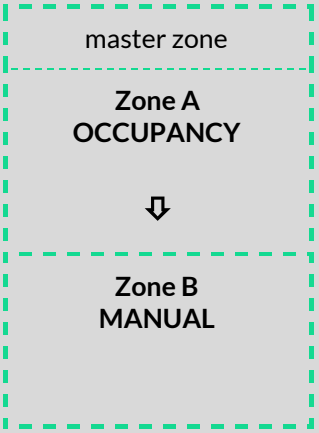
Zone linking recommendations

When you use 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 Conference room zone with *Vacancy sensing* profile and Corridor with *Occupancy sensing* profile to have corridor hold function.

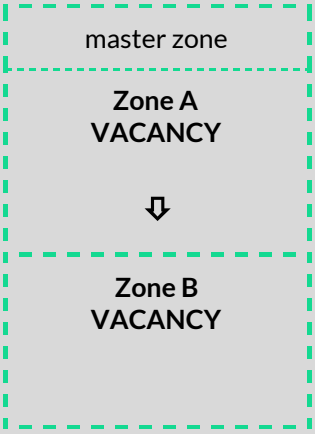
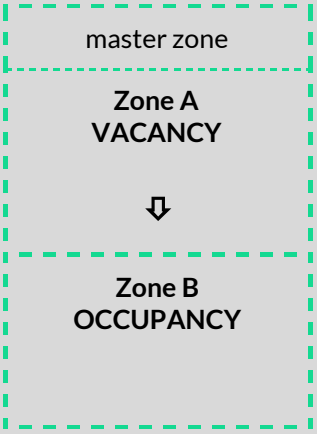
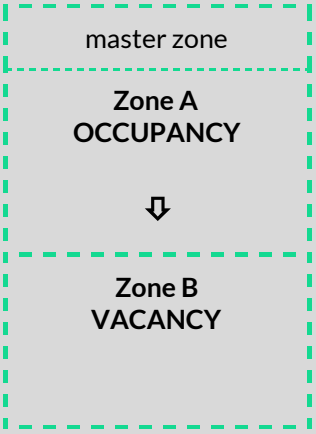
On the other hand, it is not advisable to link motion between two zones, where one of them has Manual control profile, and light in the other zone is controlled with an occupancy sensor.

Check the below linking motion examples for more information.

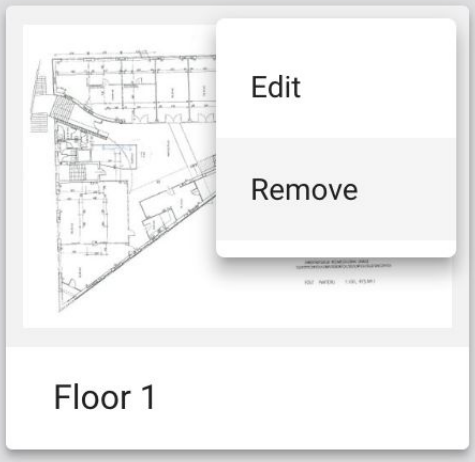
Useless configuration:

	• Zone A (Manual control) does not have occupancy sensing enabled, so it will not be possible to control the light in zone B (Vacancy).
	• Occupancy in Zone A will not trigger light in Zone B, as the Zone B is configured to be only controlled manually.

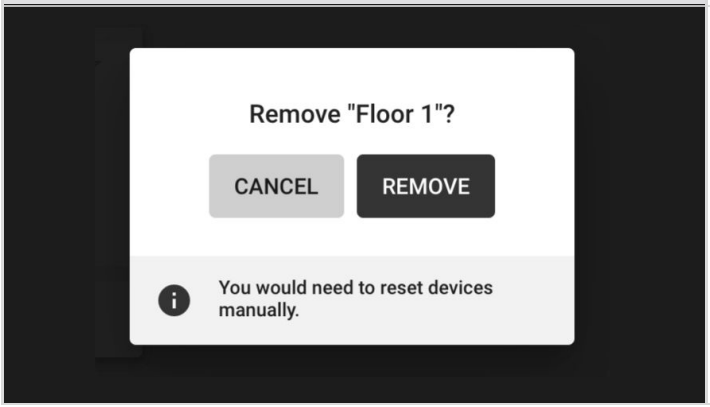
Recommended configuration:

		
Both zones have the same profile. Pressing a wall switch in zone A triggers the light in zone B.	The light in the Zone B will be maintained while occupancy is detected in Zone A.	After the light is switched on manually in the Zone B it will be maintained while occupancy is detected in Zone A.

Remove an area



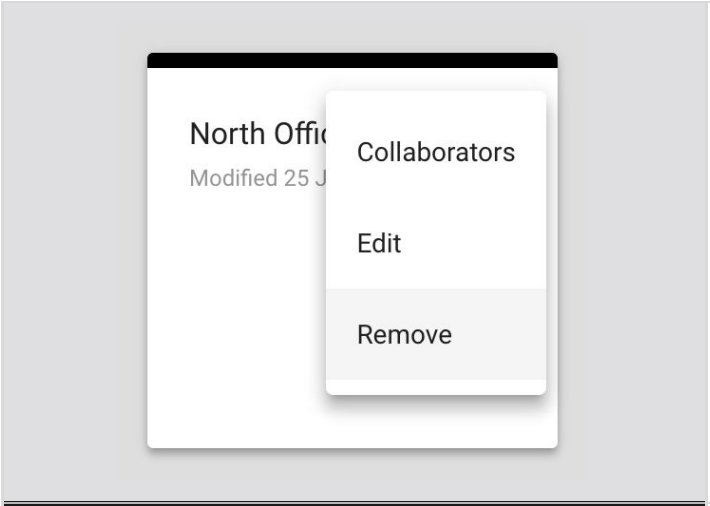
- Navigate to the selected project.
- Place the cursor on the menu icon on the area to open the context menu, then select **“REMOVE”**.



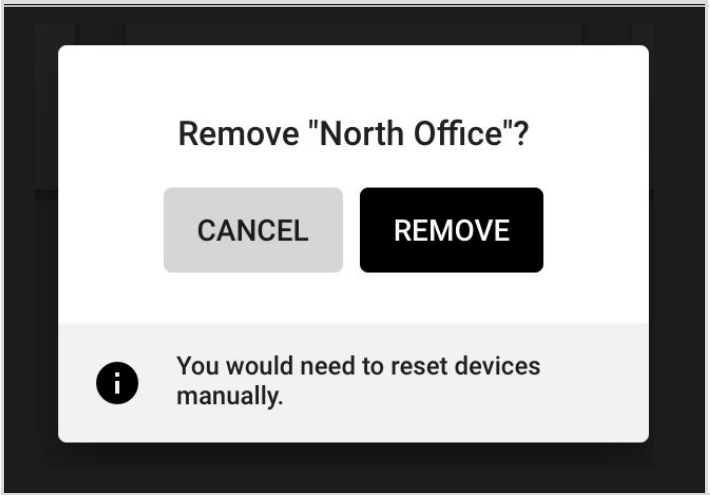
Confirm your decision by clicking **“REMOVE”** on the confirmation popup. In order to prevent accidental removal of the area, the button will be clickable after 3 seconds.

☞ **NOTE:** When an area is removed, any devices previously added to it will require a manual reset. We recommend removing all devices with the mobile app before removing an area.

Remove a project



- Navigate to the project list.
- Click the context menu icon on the project you want to remove and select "**REMOVE**".

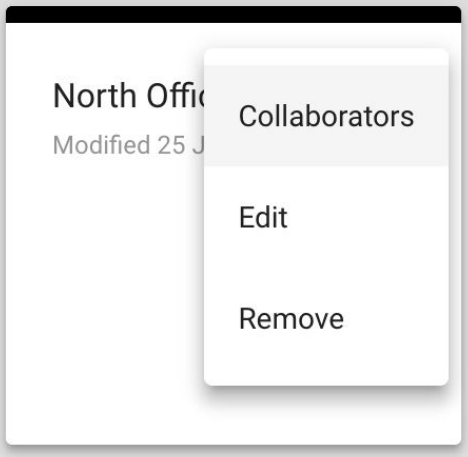


- On the confirmation pop-up, click "**REMOVE**" again. In order to prevent accidental removal of the project, the button will be clickable after 3 seconds.
- The project will be removed and will not be available for any users collaborating on the project.

NOTE: When a project is removed, any devices previously added to it will require a manual reset. We recommend removing all devices with the mobile app before removing a project.

Invite & manage project collaborators

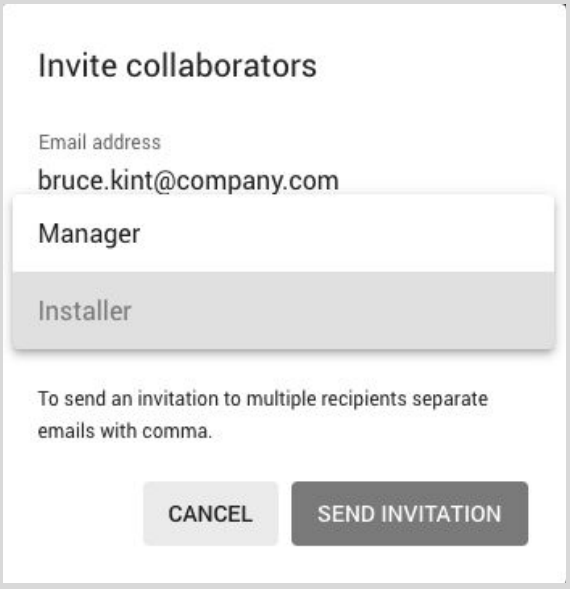
Multiple users can collaborate on the same project by creating and editing the commissioning plan and, most importantly, by carrying out on-site commissioning, thereby shortening the most critical part of the whole project.



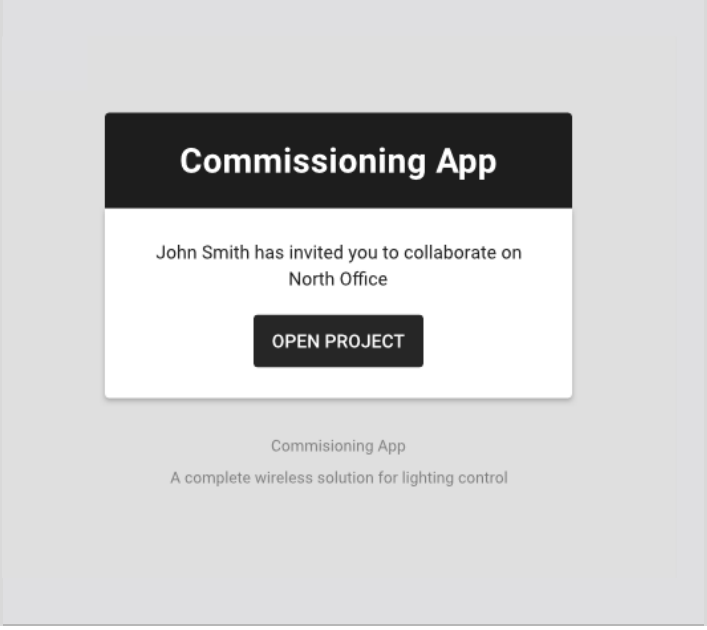
Open My projects tab and place the cursor on the menu icon ⋮ of the selected project and click on "**COLLABORATORS".**

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

You should see a list of collaborators available in the selected project. Right above the list, there is an invite button.
Click "**INVITE COLLABORATORS"** button to add new project members.



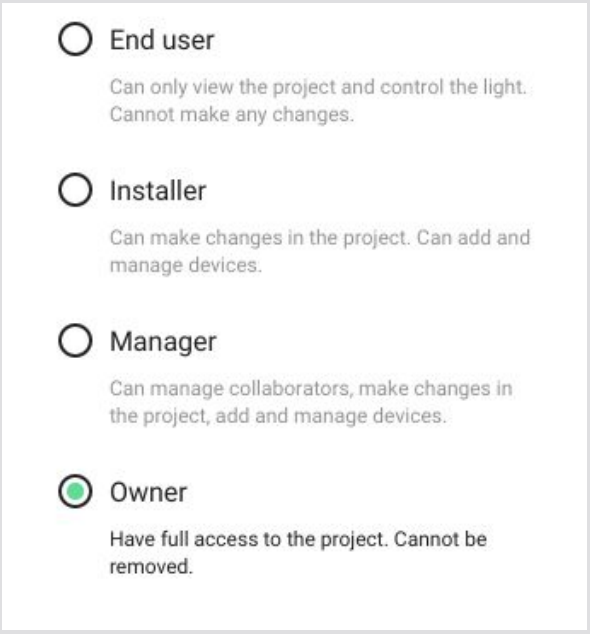
- Enter one or more email addresses to invite collaborators and share access to the project.
- Select the role for the new user(s). You can choose between:
  - Installer
  - Manager
- Depending on the selected user role the user rights vary. Confirm by pressing the **SEND INVITATION** button.
- The invited 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 labelled with **"Pending invitation"** on the list of collaborators.

User roles in the project

Our commissioning apps (web and mobile) currently support 4 user-roles in the projects: owner, installer, end user and manager.



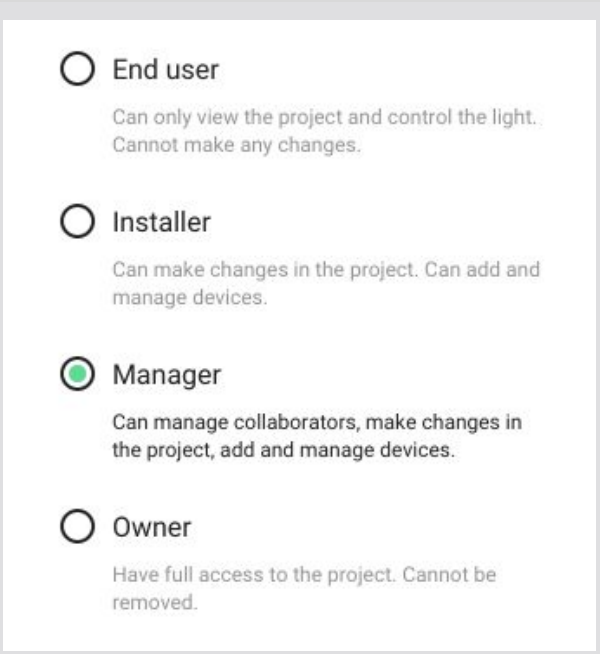
If you create a project, you automatically become **owner** of the project.

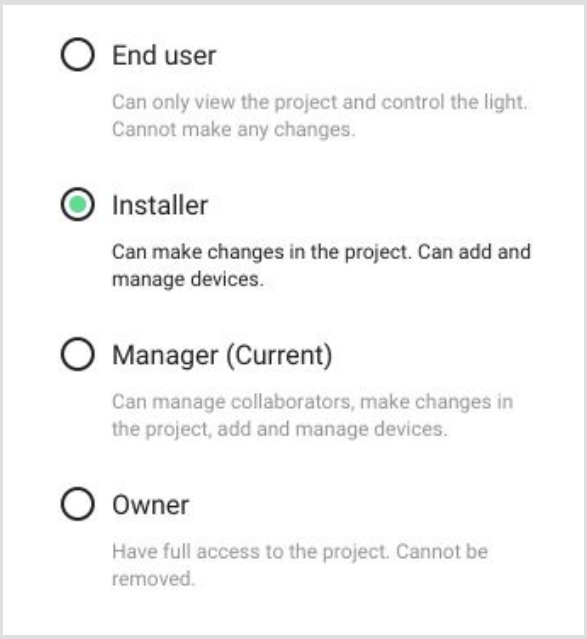
Owner role:

- 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 right **cannot** be revoked (there must always be an owner of the project), but instead of that it can be transferred to a **verified** collaborator.
    - 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)
        - 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

Manager role:

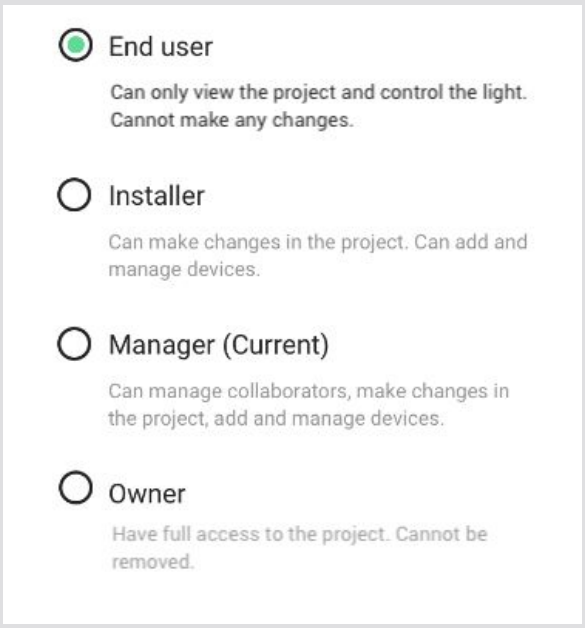
- This role is granted to the user by inviting the new collaborator to a project (access is granted by owner or another manager).
- Can manage collaborators (invite / remove users from the project and change user roles).
- Can manage project & commissioning processes.
- It is possible to have multiple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





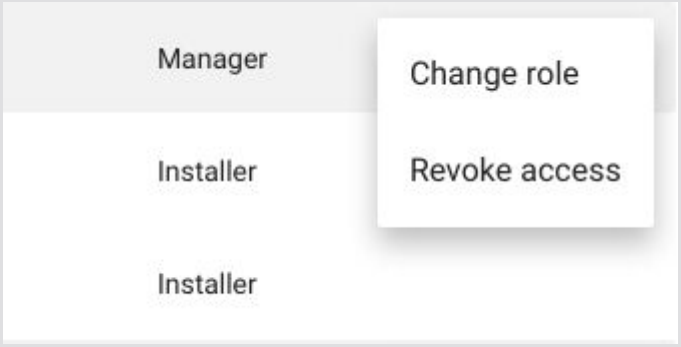
Installer:

- 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 & 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



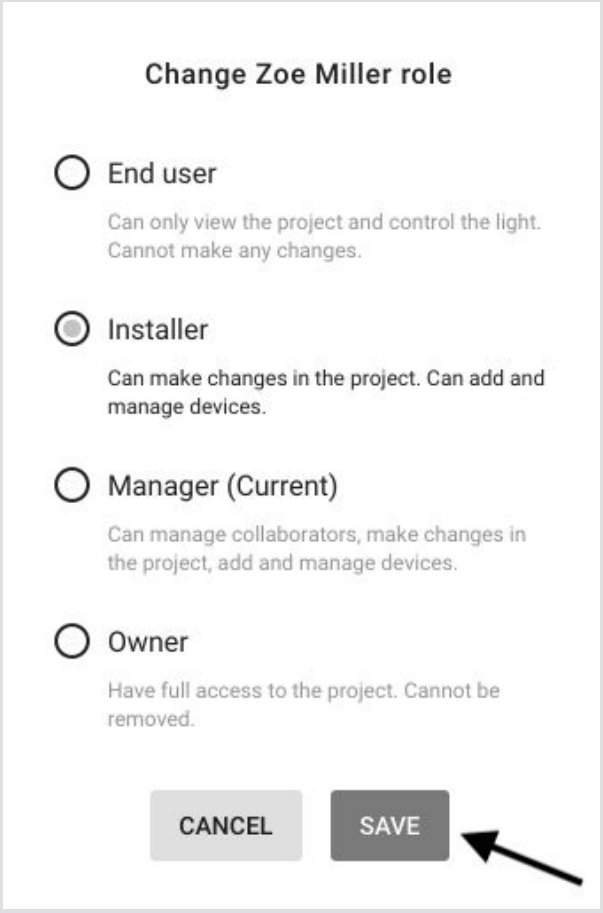
End user:

- 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



Changing user roles:

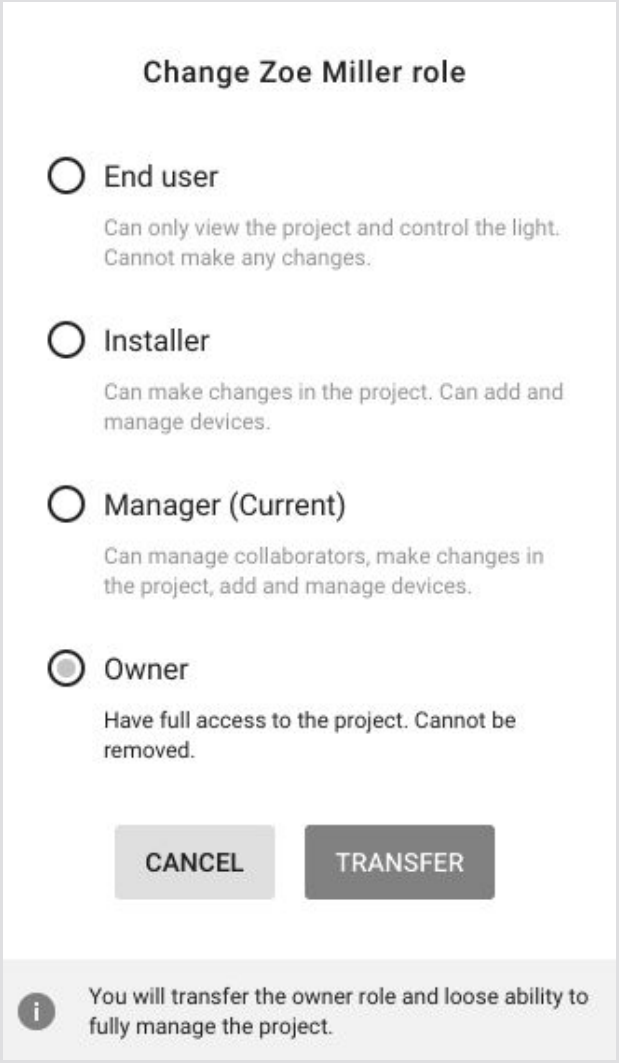
- To change the user role (e.g. from a manager to an installer role), select a project from the menu icon  and click **COLLABORATORS** from the menu.



Changing user roles:

- Select the userand select: Change role
- Select the role that you want this user to have and confirm with the **SAVE** button
- The role will be updated for the selected user.

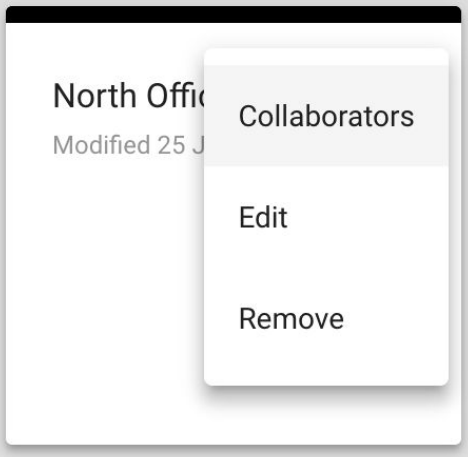
NOTE: It is not possible to change the role of a user to "Owner" role, as there is only **one** owner of each project.



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 the  icon on any user's menu which have a **confirmed** account in the app.
- Press "Change role" and select "Owner". Confirm by pressing 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

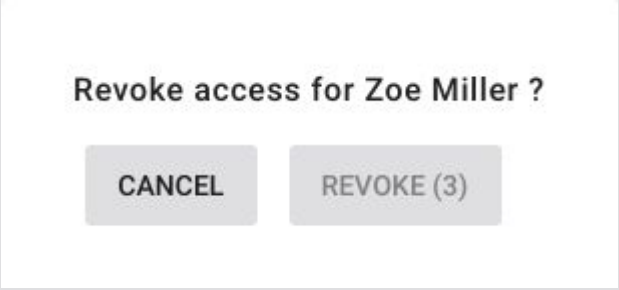
Revoke access to the project



Click the context menu icon ⋮ in the "My projects" tab and select "**COLLABORATORS".**

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

Select one or more collaborators by clicking the checkbox next to a user name on collaborators page. When you pick the person you want to remove from the project, select **"REVOKE ACCESS"** which is displayed in the right corner of the table with collaborators.



Confirm by clicking "**REVOKE"** on the pop-up window.

NOTE: It is not possible to revoke access to of the user with the "Owner" role in 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.

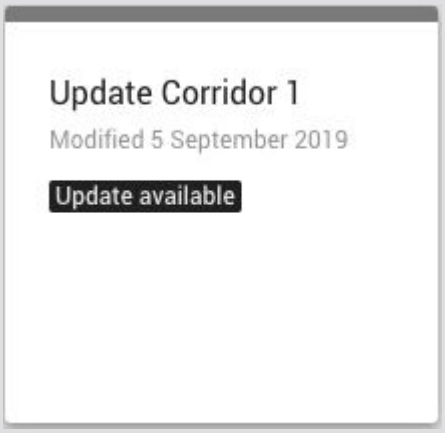
Supporting previous versions

New versions of 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 older version, without having to reconfigure the whole project.

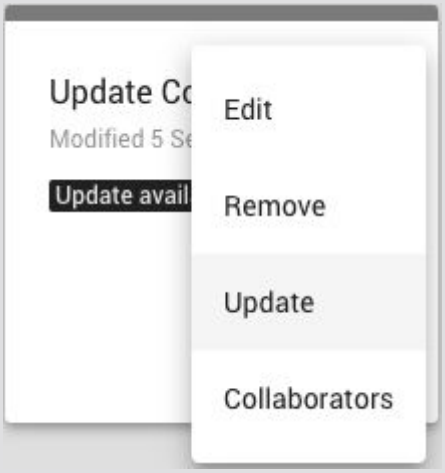
NOTE: You will not be able to update projects to the newest version if they already include commissioned devices that are not compatible (e.g. out-of-date, not supported or lacking some features).

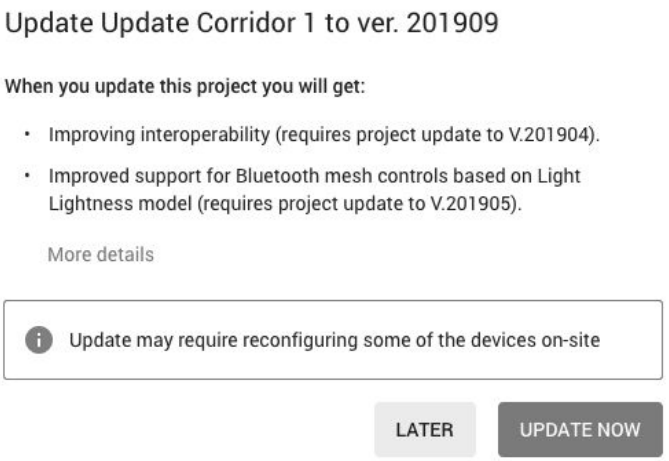
NOTE: The zones that include devices that are not compatible with the project version will be marked with alerts and conflicting devices will be highlighted on the list of devices.

Updating project to latest version

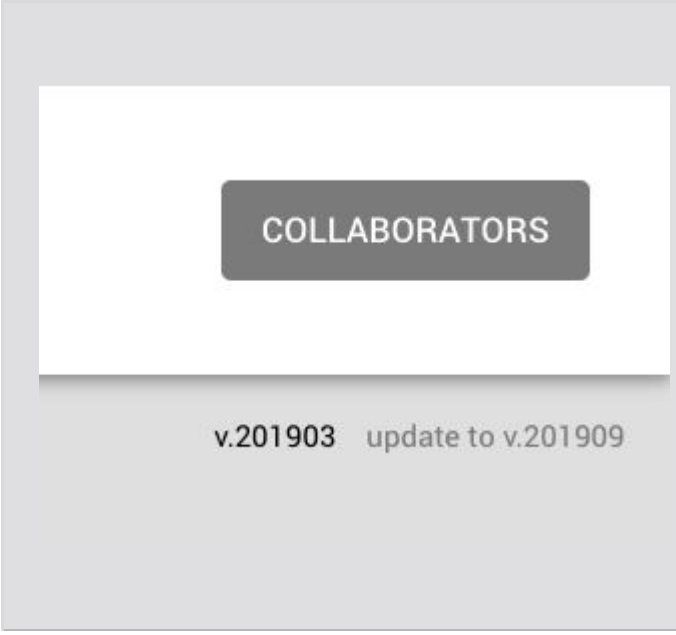


- Navigate to “My Projects” tab. If there are any updates available, you will see the “**Update available**” label right under the project’s name.
- There are two options for updating your project:





- **Option 1**: Click on the context menu in top-right corner of a project box and select “**Update**”.
- You will see a pop-up, where you can update your project by clicking“**UPDATE NOW”** button.
- Click “**More details**” to access the release notes for newest version.
- Additionally, there is information about firmware compatibility.



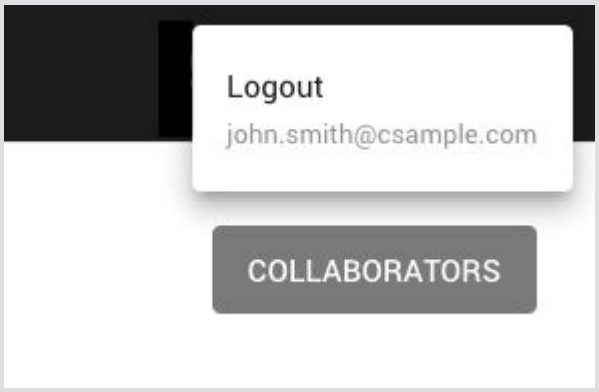
Option 2: Click on the project that is labelled with "**Update available**".

- Under the "Collaborators" button, there are the names of two versions of the project:
  v.201903 = current version
  update to v.201909 = new version update link
- Click on the new version link and select "**Update**" button. The update should start automatically.

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.

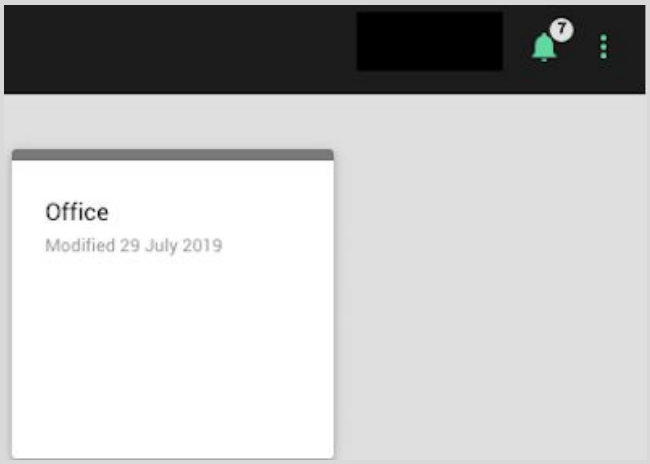
Sign out



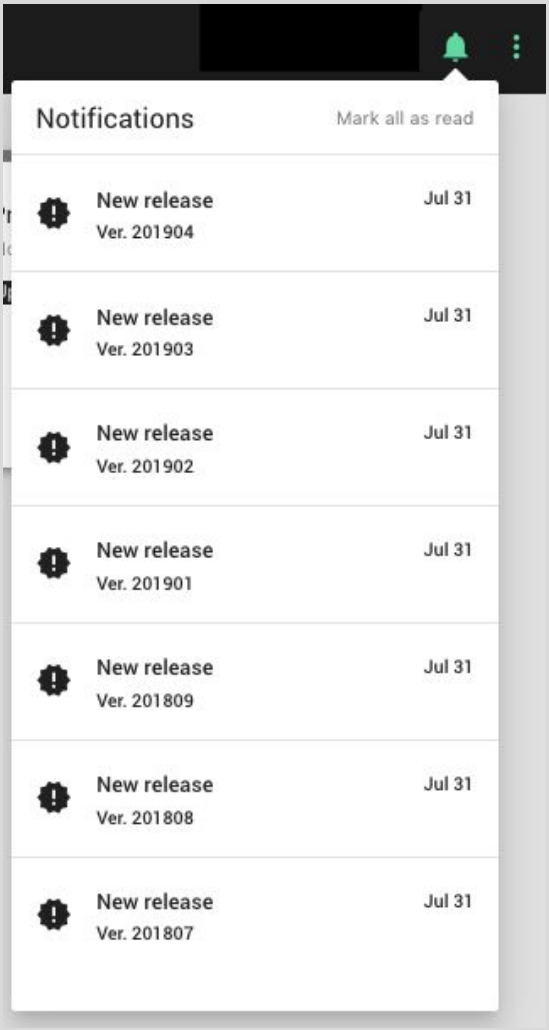
To sign out, click the icon in the top right corner of the screen (on the black navigation bar).

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).

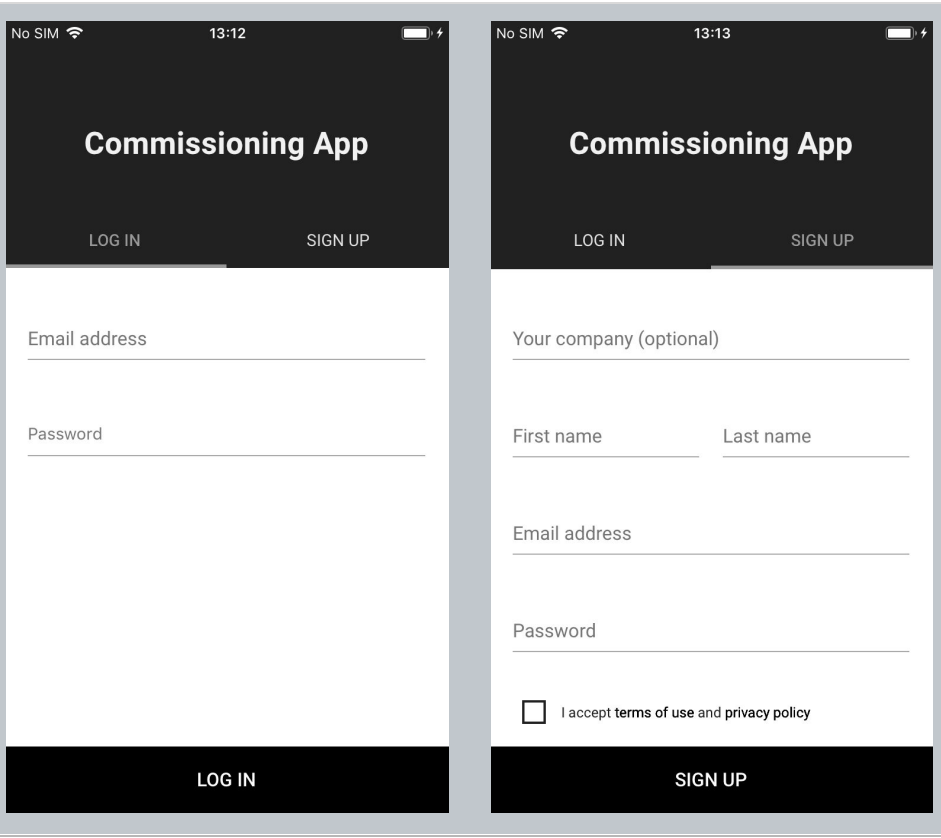
You can also click "**MARK ALL AS READ**" to see only new notifications bolded.

3. Commissioning on-site

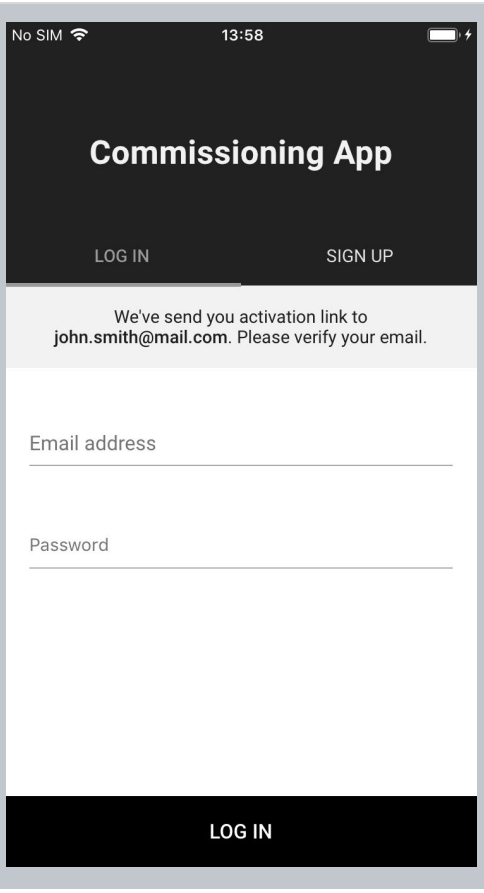
Commissioning of the devices installed on site can be done with the BlueMesh mobile app on an iPhone or iPad. For now, the BlueMesh mobile app is distributed by our business representatives via TestFlight. If you wish to start using the app, please contact your business representative at BlueMesh . The mobile app synchronizes with the web app, so any problems or changes made during commissioning are visible in both apps in real time.

In order to use the commissioning app, sign in to your account or create one in the app. Make sure you have access to the project you're going to commission (see: Invite & manage project collaborators).

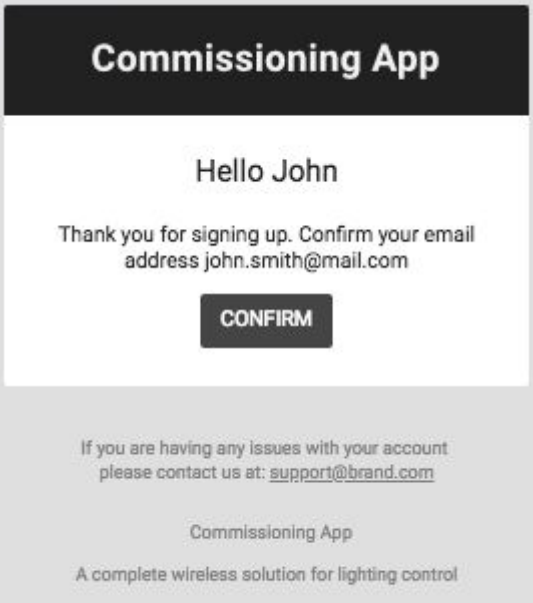
Log in & Sign up



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"**.



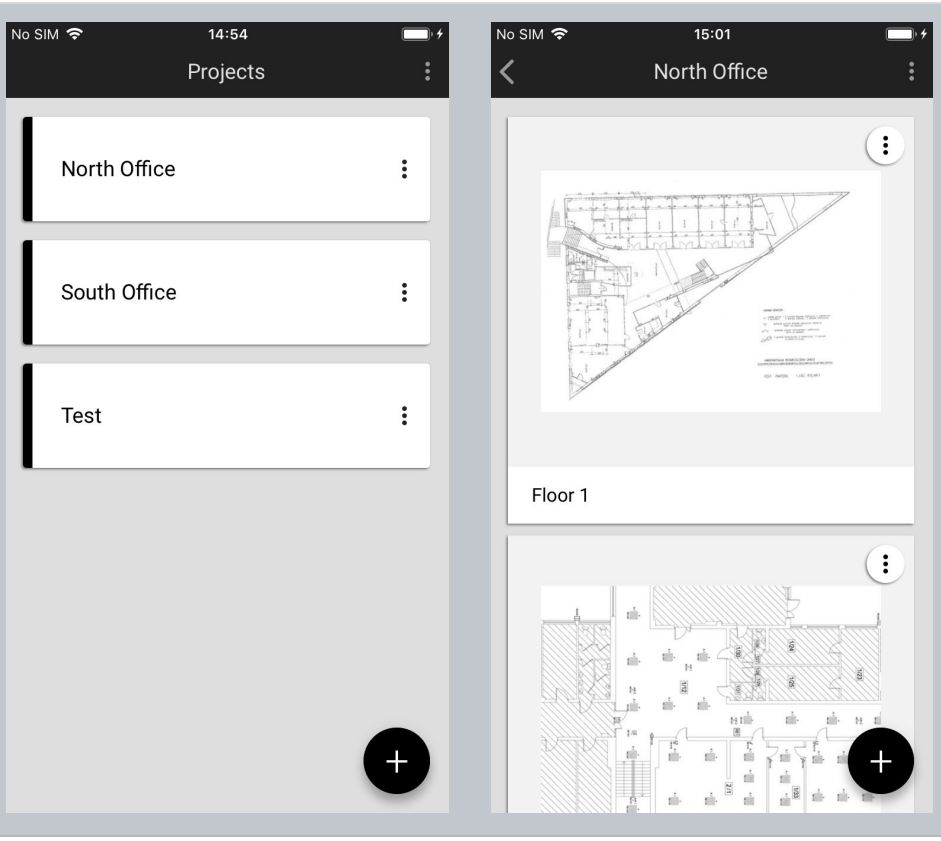
A verification email will be sent to the address you entered.



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

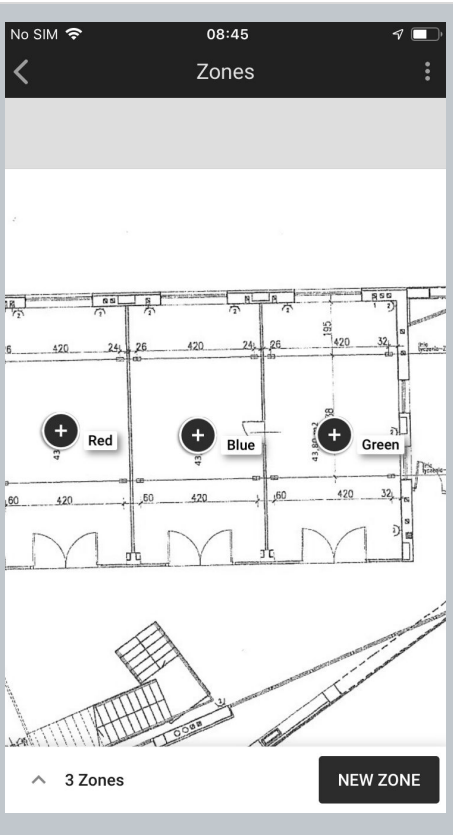
[6] Clicking **Confirm** will direct you to the web app in your mobile web browser.

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.

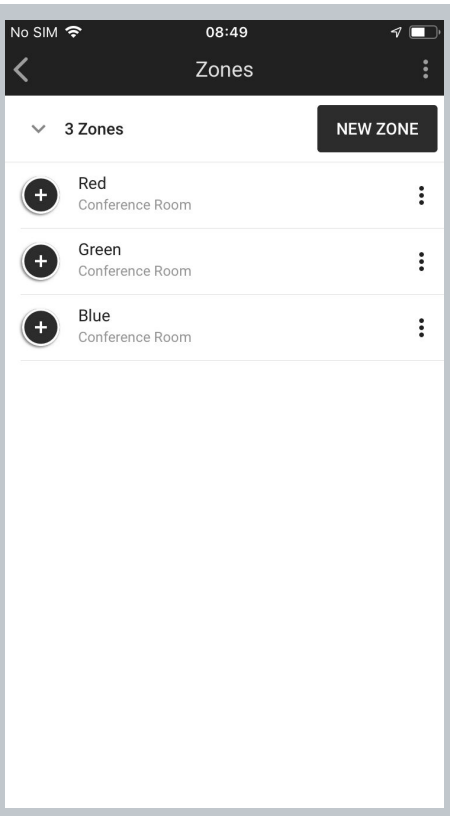
Select zone



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)

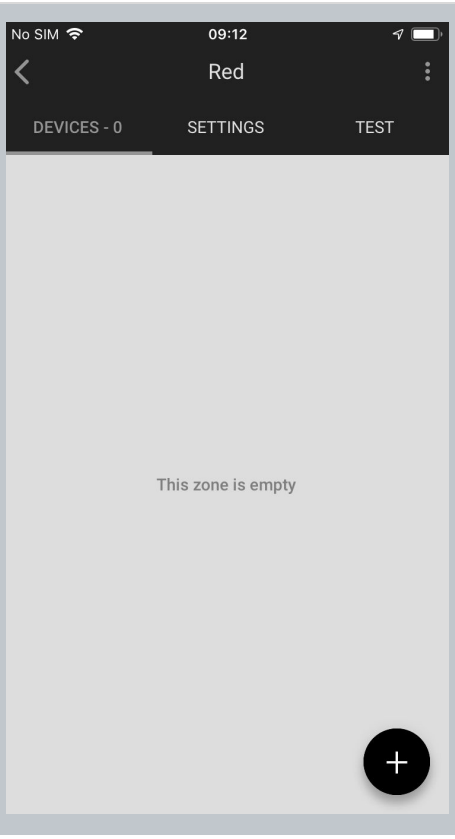


List view

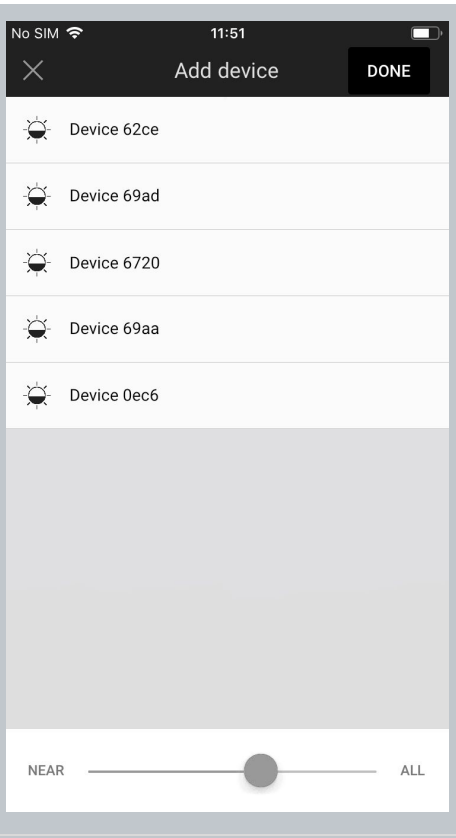
- If you prefer to see the zones on a list, tap the element at the bottom of the screen with the number of zones, e.g. **3 Zones** in this example.
- Each zone has a status icon, name and assigned profile, e.g. Conference Room
- Select the desired zone by tapping its name.
- To go back to area view,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

Adding devices

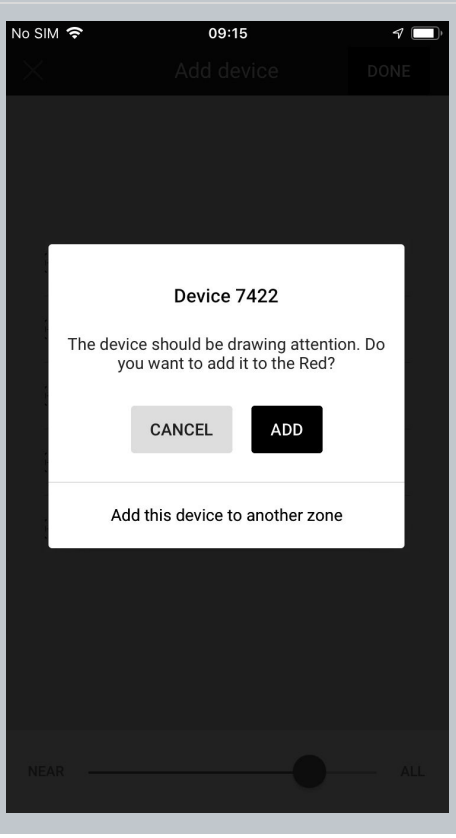
Adding devices to a zone allows their full functionality to be accessed and provides maximum security. Devices added to a zone for the first time must also be configured in order to be fully functional.



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

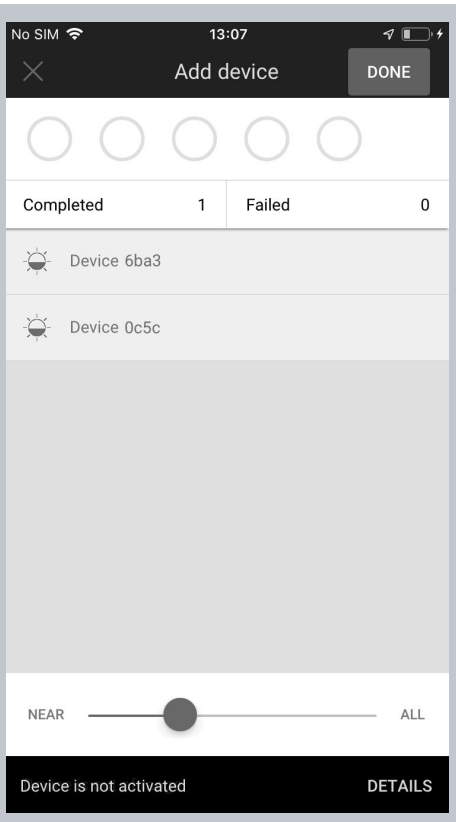


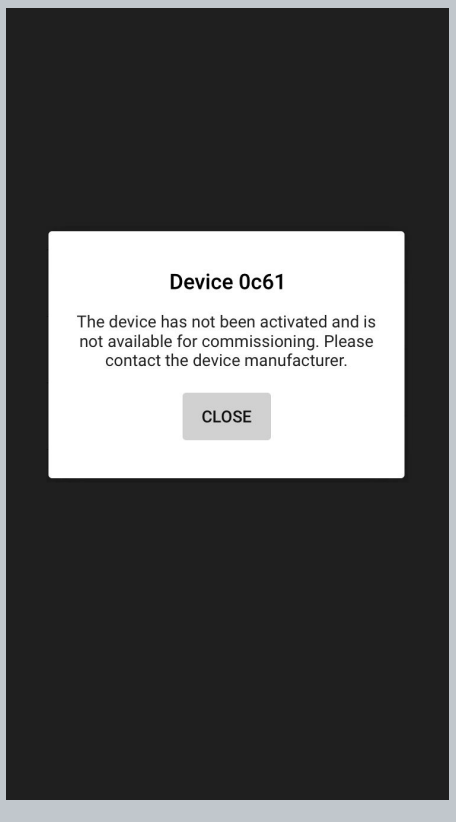
- Narrow down the list to display the closest devices by moving the slider to the left.
- Select the device you want to add by tapping its name.



- 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, tap on the link "Add this device to another zone".[7]
- Otherwise, tap "**CANCEL**" and move on to the next device.

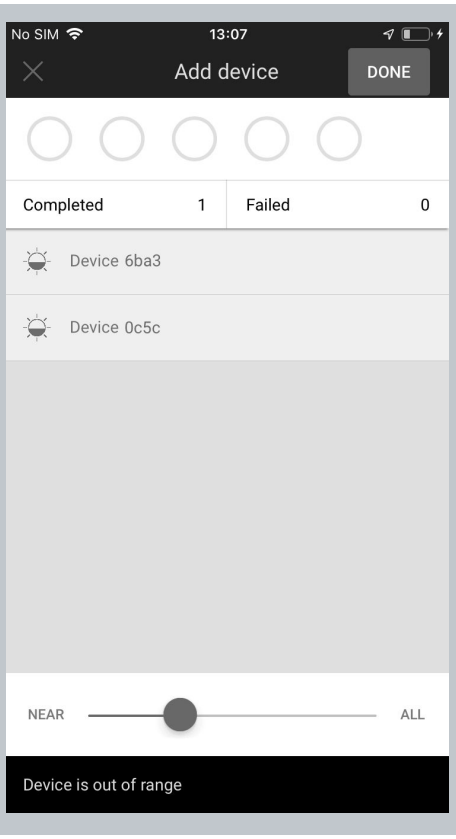
[7] Note: devices added to another zone will still require configuration with the settings for that zone.



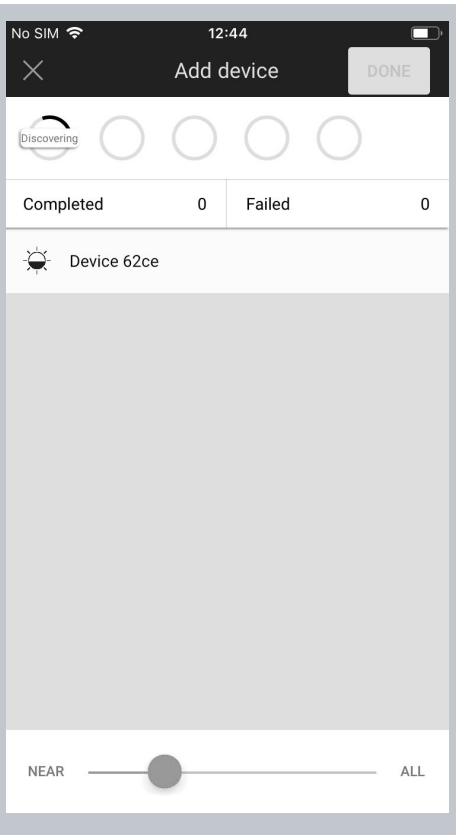


- **Inactive Devices**
  It may happen that one (or some) of the devices are greyed out on the list. This indicates that you **cannot** add them to your project. There are two reasons when a device is not active:

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



- **Case 2: A device is out of range** Solution: change your location and try to move closer to a distant device. Refresh the devices list and try to add it to the project again.



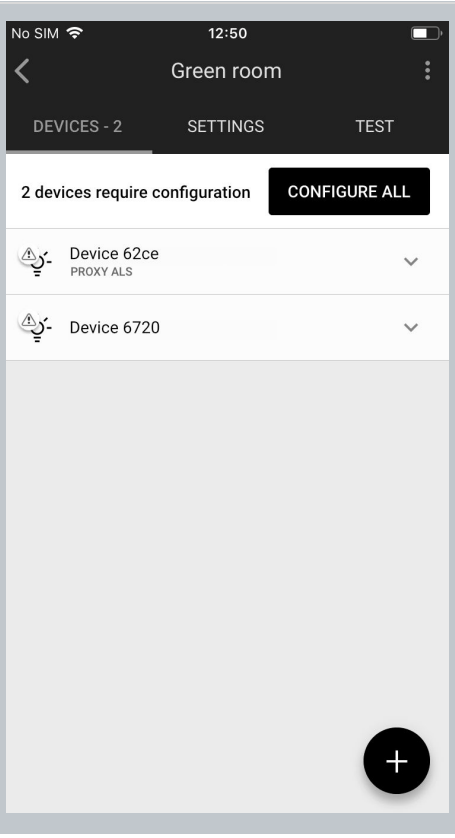
- If your device is active, and it has been successfully added, the configuration will be applied in the background (configuring Mesh network, setting Relays on some of the devices) so you can start adding another device straight away.[8]
- When all required devices have been added to the zone, close the Add device view.[9]

[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.

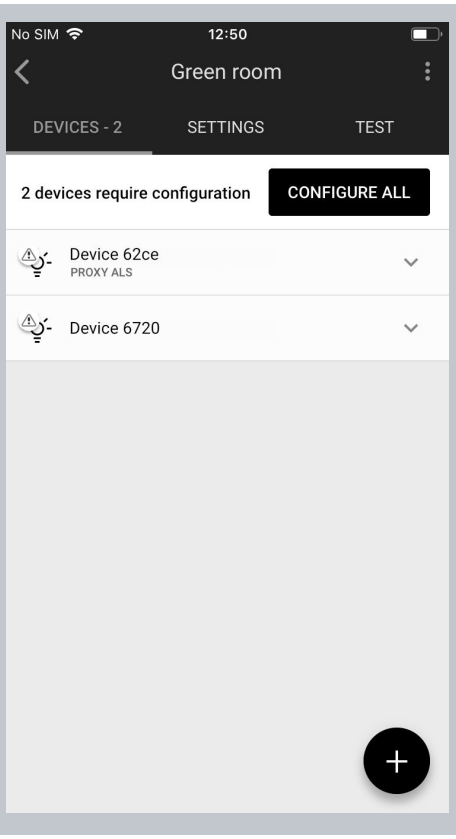
Configure all devices in a zone

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

- there has been a connection error (e.g. Internet problems)
- user has accidentally interrupted devices configuration (e.g. an iOS device powers off)
- user made changes in zone's settings (e.g. changing profile, changing scenario settings, adding/editing zone linking).

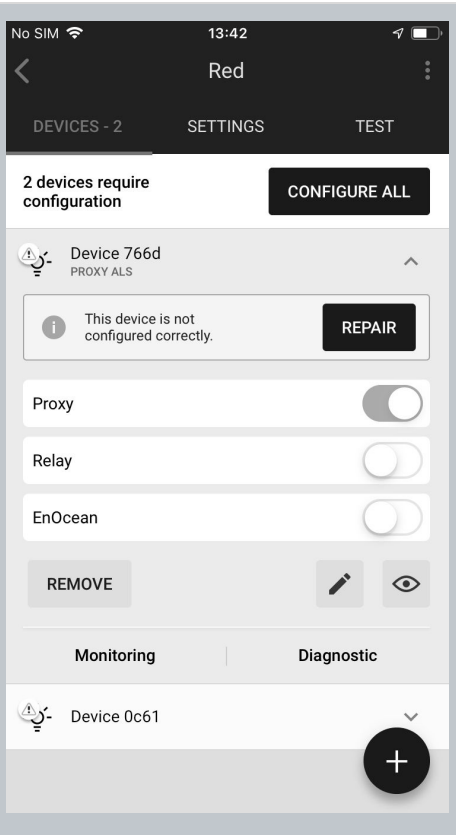


- To configure all devices in a zone, navigate to the zone.
- Tap "**CONFIGURE ALL**".



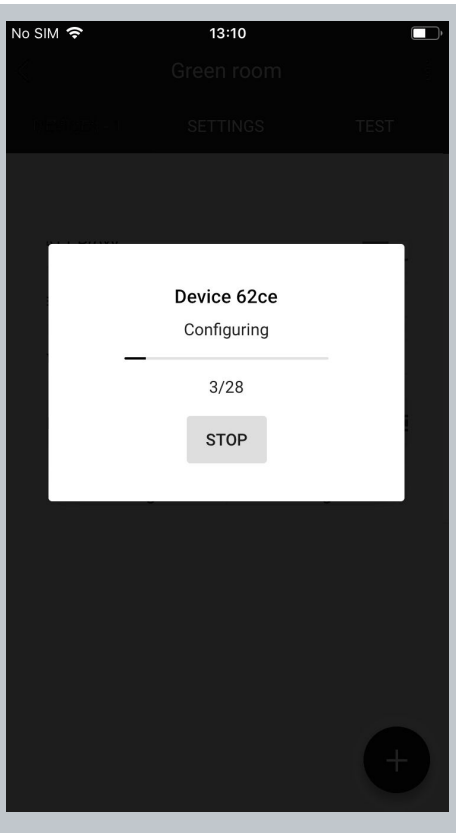
- The required configuration for the zone will be applied to all devices one-by-one.

Repair device



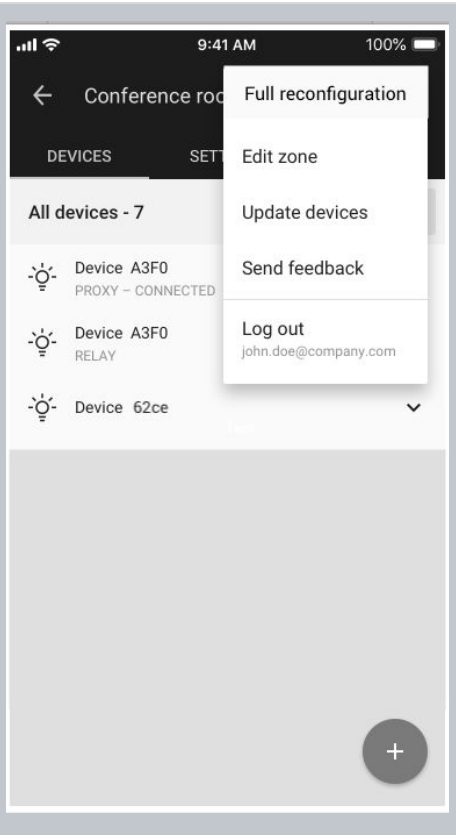
In some cases, configuration of the device may fail or be cancelled by the user. In such cases, the device configuration needs to be repaired.

- To repair a misconfigured device, select it from the Devices list and expand the options.
- Tap "**REPAIR**".



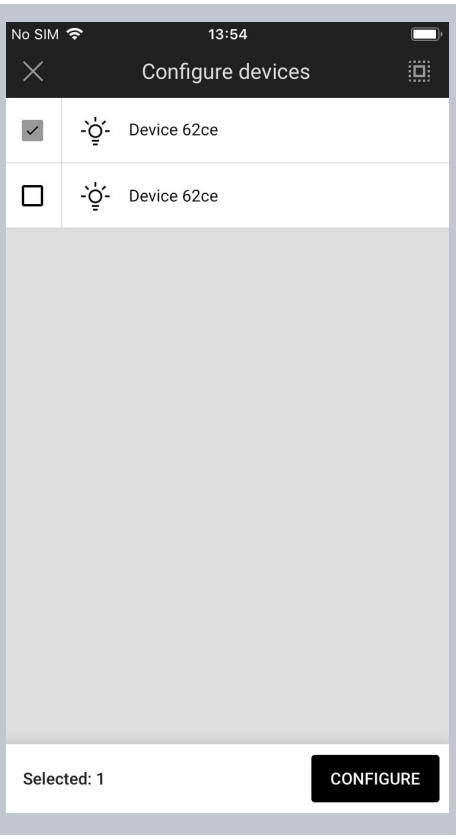
- The required configuration will be applied to the device.

Full Configuration



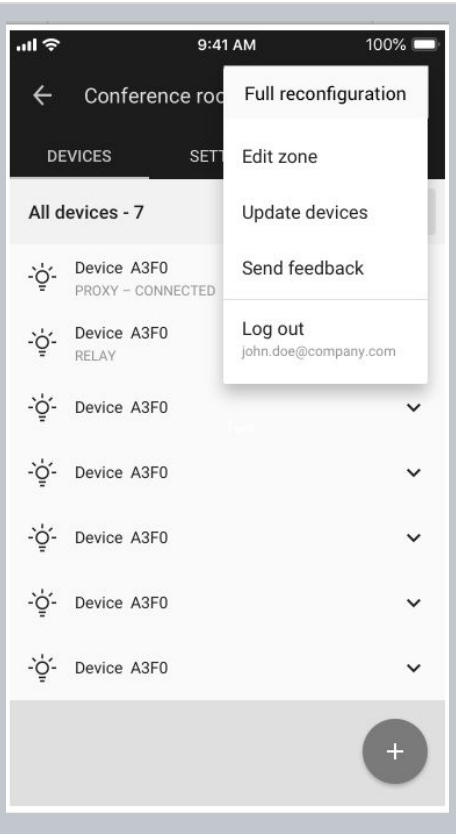
The BlueMesh mobile app also allows you to fully configure any device(s) at any time. A full configuration will send the entire configuration to the device(s) regardless of whether it was previously configured or not.

- Select zone.
- Display the context menu by tapping the  icon and select "**FULL RECONFIGURATION**" option.



- A list of devices will appear.
- Select the devices to be configured.You can do it by tapping the checkbox next to each device, or select all devices by tapping the square icon in the top-right corner of the view.
- Tap "**CONFIGURE "** button.

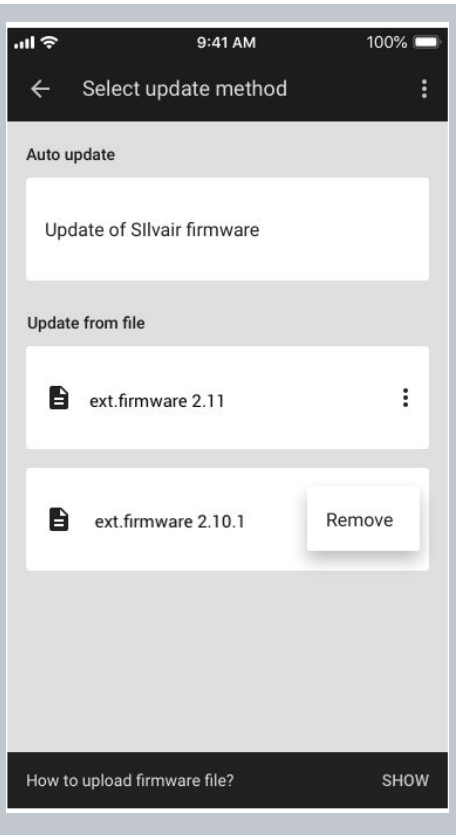
Update devices (Over-the-air update)



With the BlueMesh mobile app, you can also do the OTA (Over-the-air) update of devices in the mesh network.

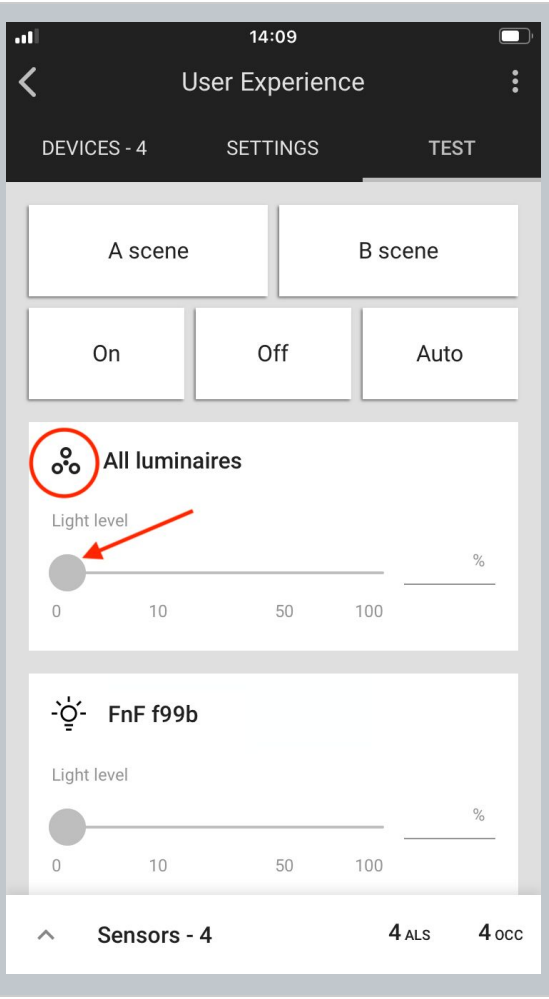
The feature allows to update devices that have already been added to the mesh network. Update for devices with BlueMesh

firmware is automatic (the new firmware is stored and automatically downloaded from the cloud).
To update devices with external firmware, user must have a firmware file (in a zip format) and upload it to the BlueMesh mobile app.



Update and configuration detail available on our website

Identifying faulty luminaires in a zone



When an installer finishes adding devices process, but there's one, or more faulty nodes inside that zone there is an easy way to check where such a faulty luminaire is located.

To do it, navigate to the zone where you were adding, or updating devices and go to TEST tab and press the icon next to "All luminaires". This button will trigger the mass zone attention. While performing the test, observe the surface on which luminaires are mounted. The faulty luminaire in that zone will not be drawing any attention.

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

Zone profile customization

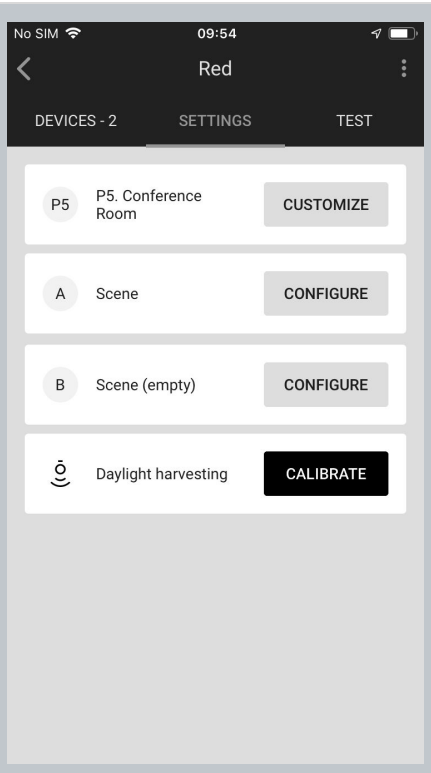
Once all the devices have been added to the zone, you can change the settings (e.g. default light level) in the **SETTINGS** tab by tapping **CUSTOMIZE**. The settings and features depend on the **scenario** which controls the profile. Each profile can be controlled by one of the 7 available scenarios.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

Example: in **profiles** controlled by **manual control** scenario, user can change: *default light level*, *low/high-end trim* and *power up behavior* using the BlueMesh mobile app.

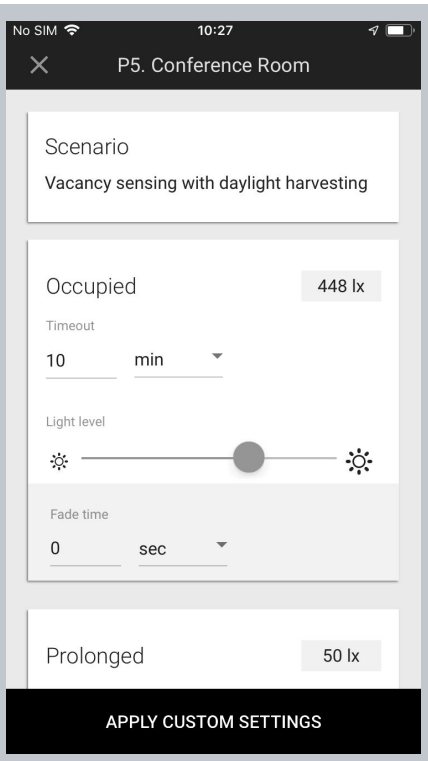
NOTE: Any changes made to zone parameters via the mobile app will automatically create a local, customized version of the original profile. These changes will not affect other zones configured with the original profile.

Customize a profile

Each profile can be customized. Depending on the selected **Scenario**, there will be different customization parameters available.



- Go to the **"SETTINGS"** tab.
- Tap "**CUSTOMIZE"** next to the profile that you want to update.



- Change the parameters as needed.
- Tap "**APPLY CUSTOM SETTINGS**".
- The devices added to the zone will be automatically reconfigured. Observe the progress bar and wait for full reconfiguration.
- After going back to the profiles list on the "**SETTINGS**" tab, the new profile will appear as "Custom profile".

Which scenario can be customized?

Each profile has one scenario assigned in order to work properly. From the BlueMesh mobile app, user can change settings of 7 scenarios:

- 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 below table shows a list of parameters that can show up for customization in each of the above scenarios.

NOTE: Some scenarios, e.g. Manual control can have only one customization parameter, while others, e.g. Vacancy sensing can have 3 parameters.

Scenario customization parameters:

Parameter	Description
Default Light level	Customize the default light level when switched on.
Occupied	**Light Level** - light level when switched on.
	Timeout - the time for which the light is maintained at the defined level when switched on. The timer is reset each time motion is detected.
	Fade time - the 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** - the time for which the light is maintained at the Prolonged mode Light Level after Occupied mode timeout. **Fade time** - the time over which Prolonged mode light level is achieved after 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** - the time over which the Vacant mode light level is achieved after Prolonged mode timeout.

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.

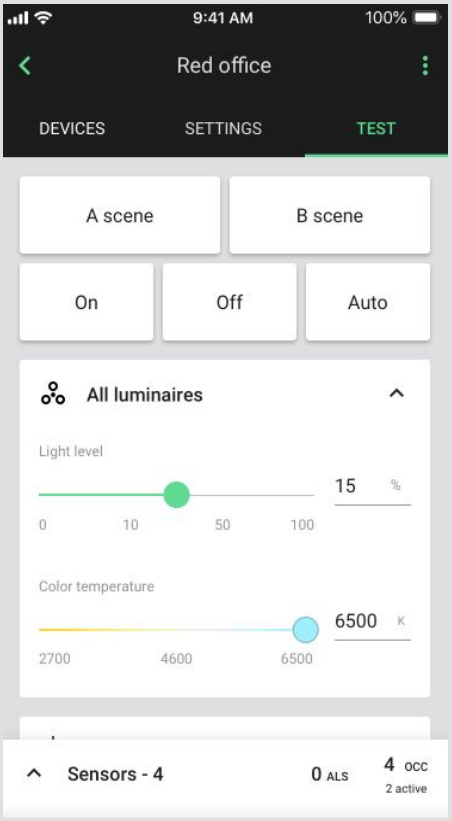
Tunable White feature requires:

- 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 (V.2.15.0 or higher)

Color temperature manual control

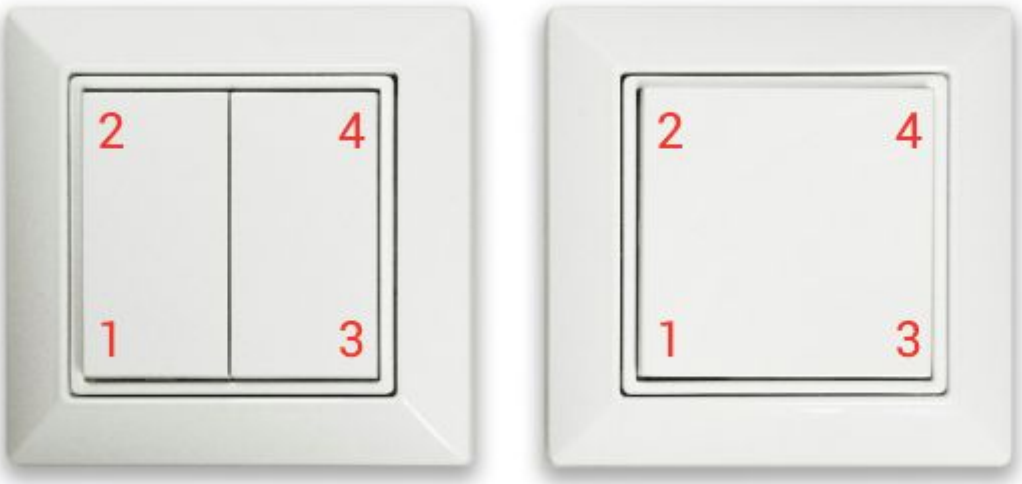
The BlueMesh mobile app allows the manual color temperature adjustment of all compatible tunable white light fixtures in the zone. The change of color temperature can be adjusted in two ways:

1. By using a color termperature slider in the mobile app (requires app version 1.19 or higher). The slider is in the **TEST** tab.



- In the mobile app 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.

2. By pressing an EnOcean switch. On the EnOcean switch, the **right side** rocker will control the color temperature (long press). See the example image below.



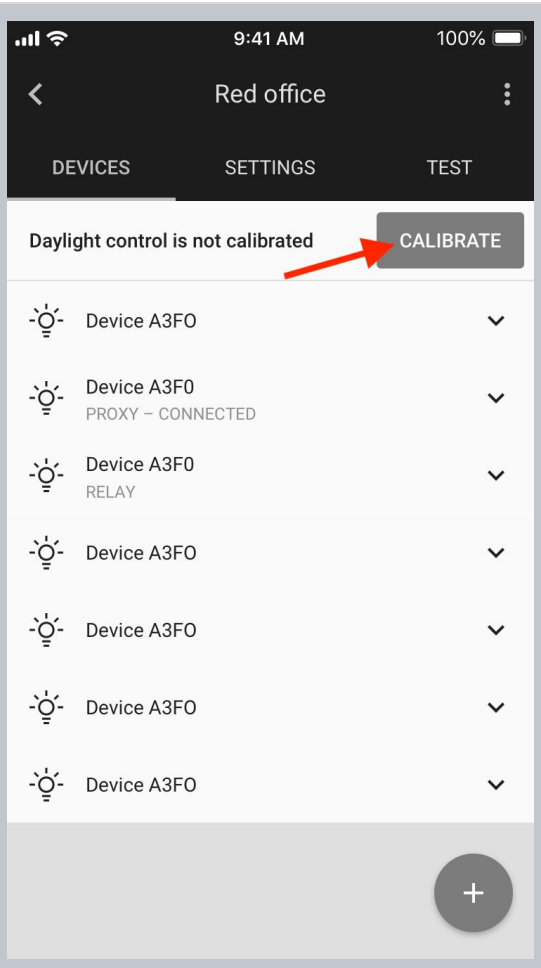
Easyfit Single (EWSSB) Double Rocker (EWSDB)

- Pressing EnOcean in position **4** - long press up - warmer temperature
- Pressing EnOcean in position **3** - long press down - colder temperature

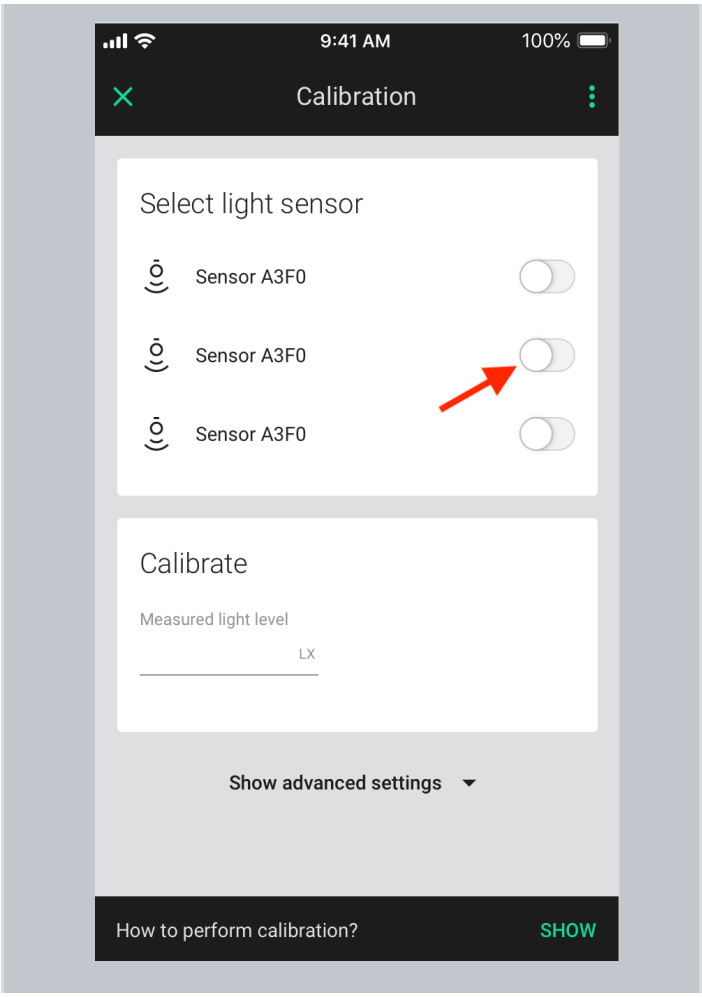
Daylight harvesting calibration

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.

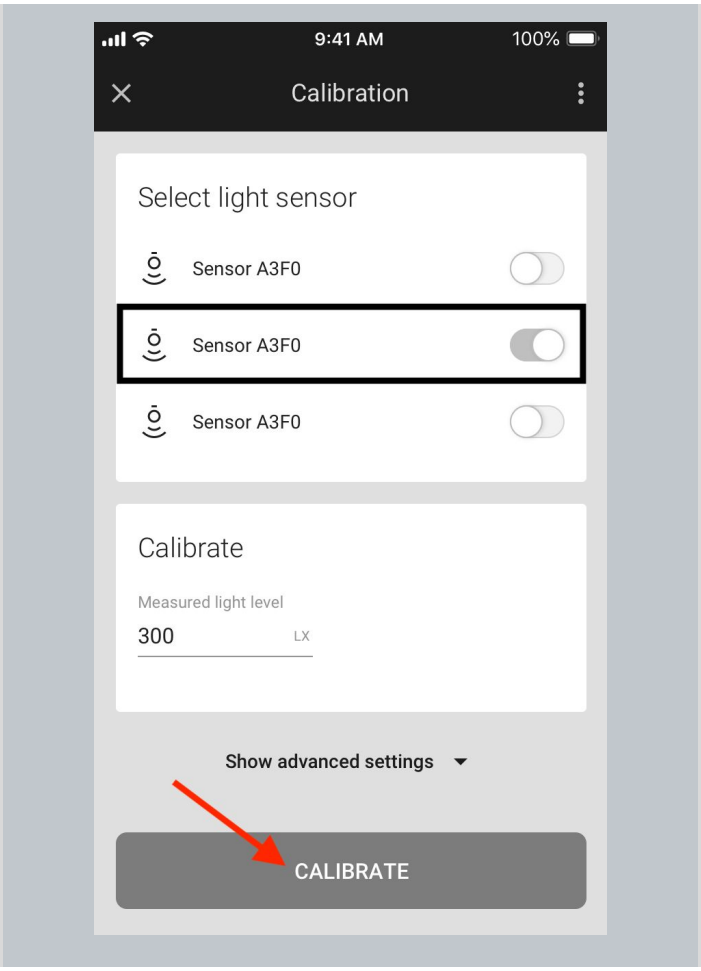
NOTE: Daylight harvesting calibration should be performed only for zones that have been properly configured. Calibration of a malfunctioning zone may lead to errors.



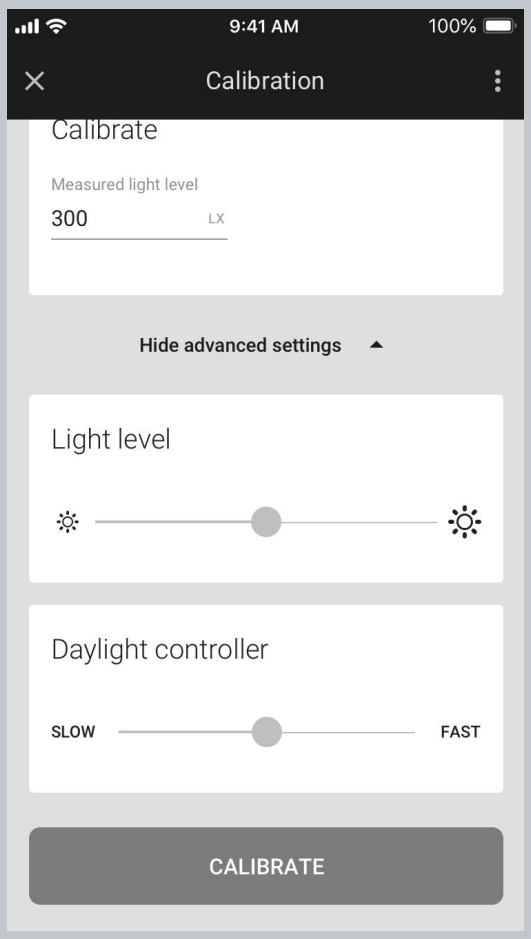
- Open the project, select desired area and a zone.
- Press **CALIBRATE** button from the "**DEVICES**" tab. The button will be active only if there're devices with ALS (ambient light sensor) that should be calibrated.
- **NOTE** You can also start calibration from the **"SETTINGS"** tab. There's a **"Daylight harvesting"** element with CALIBRATE button that opens calibration view.



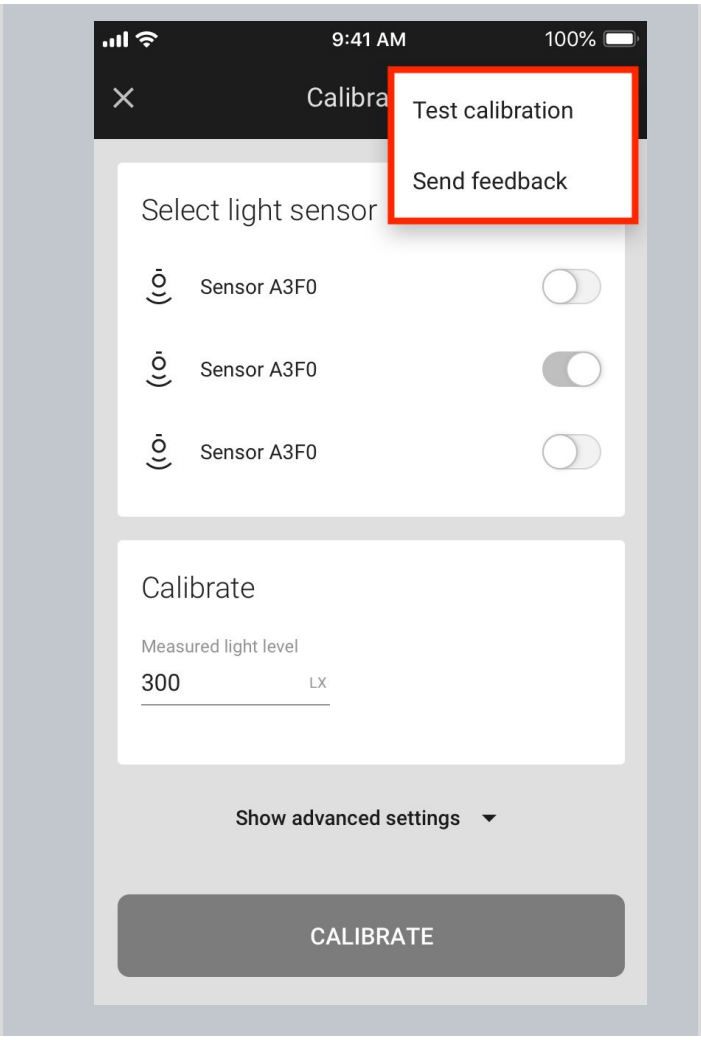
- Select light sensor (switch the toggle next to the light sensor to the right).
- **NOTE** After pressing the sensor icon a device starts blinking. It helps to quickly identify the luminaire.
- Place a light meter below the sensor on the surface where you want to maintain the desired light level.
- Enter the LUX value measured by the light meter in the **Measured light level** field.
- 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 anywere outside the input field.** Only after this action the CALIBRATE button will show up on this view.
- Confirm action by pressing **CALIBRATE** button at the bottom of the screen.
- Calibration of the light sensor will start immediately.
- Click here to read about "Show advanced settings".



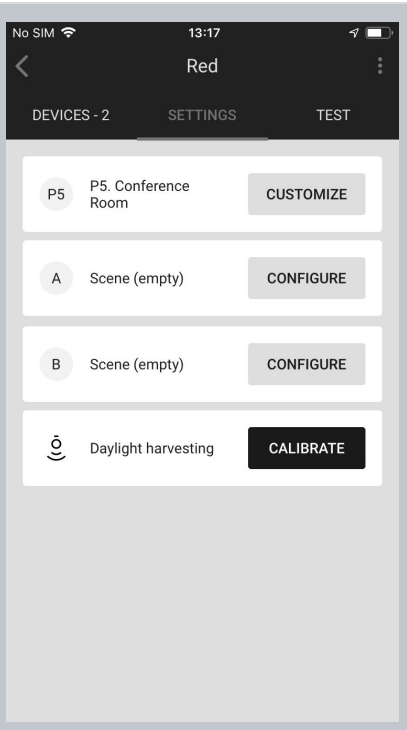
- **Show advanced settings** - this will show you the Light level and Daylight controller sliders.
- **Light level -** use the slider to adjust the light level of the luminaires in the zone.
- **Daylight controller -** If there are any issues or unexpected light behavior including frequent on/off or oscillation, use the daylight controller slider to adjust the controller settings.
    - Use the slider to adjust the responsiveness of daylight control.
    - If oscillations occur, position the slider to the left.
    - If daylight adjustment is too slow, position the slider to the right.
    - Select "**RUN TEST**" to check whether the performance meets your requirements.
    - 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** - 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 test shows any oscillations or misconfiguration, you should try to redo the calibration, or adjust the Daylight controller slider from the advanced settings.

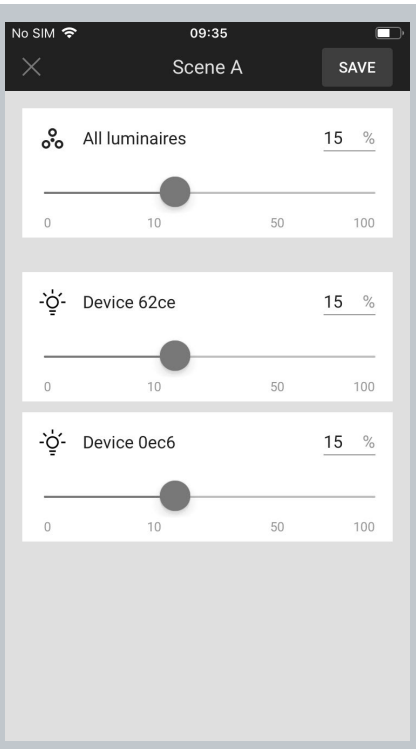
Scenes setup

The BlueMesh mobile app allows two scenes to be created per zone. Scenes can be activated with a wall switch (see: Using the EnOcean switch). Each of the two scenes **for a zone** can have different parameters.



- Open the **SETTINGS** tab.
- Press "CONFIGURE" to select the scene that you want to configure. .
- The selected scene setup view will open and the current scene will be triggered in the zone. If the scene has not been configured the light(s) will go to 15%.

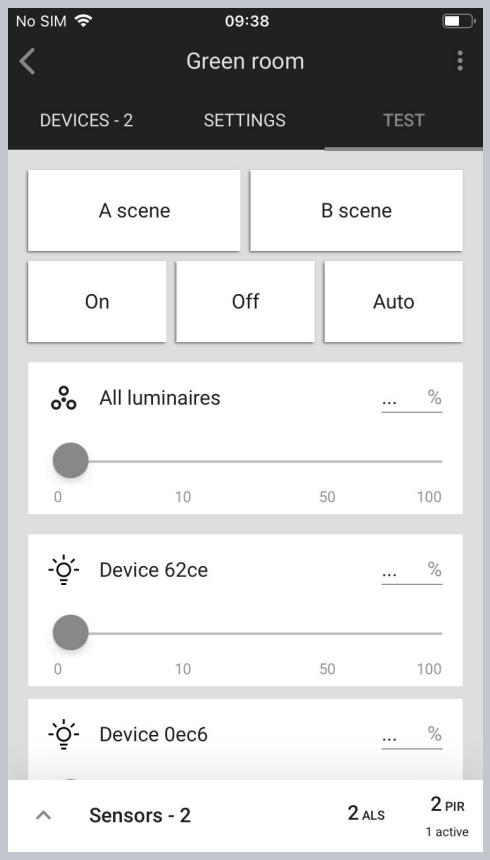
Configuring scenes requires that all devices have been added to the zone and are configured correctly (i.e. there are no zone alerts or warnings).



- Adjust the light level for individual luminaires to reflect the desired scene configuration.
- Identify the luminaire by tapping on the device icon. The luminaire will start to flash.
- Tap **"SAVE"** to save the scene.

Test your zone

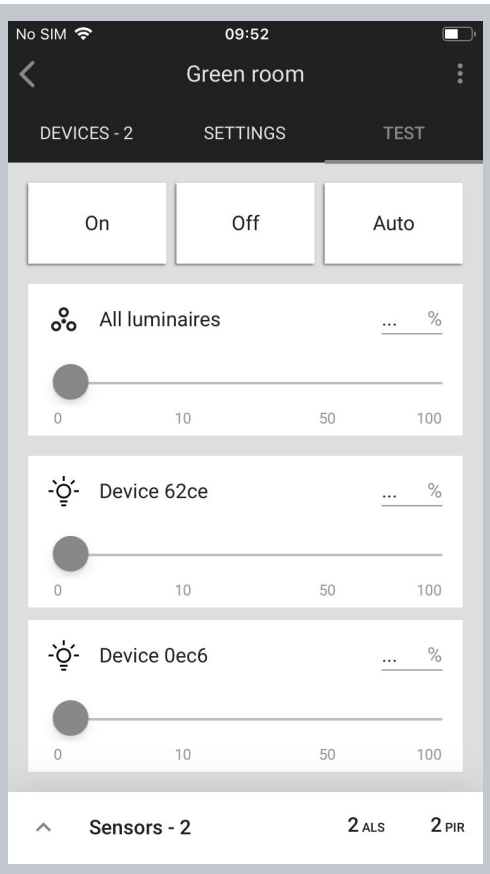
The test tab allows you to test if the light control is working correctly, i.e. can the luminaires be switched on to maximum level, switched off, dimmed and are the scenes are configured as desired.



- 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.
  Off: all luminaires switch off.
  On: all luminaires go to 100% .
  Auto: turns on the automatic settings for luminaires.
- The luminaires will react immediately.

NOTE:
Check which devices are added to your zone.

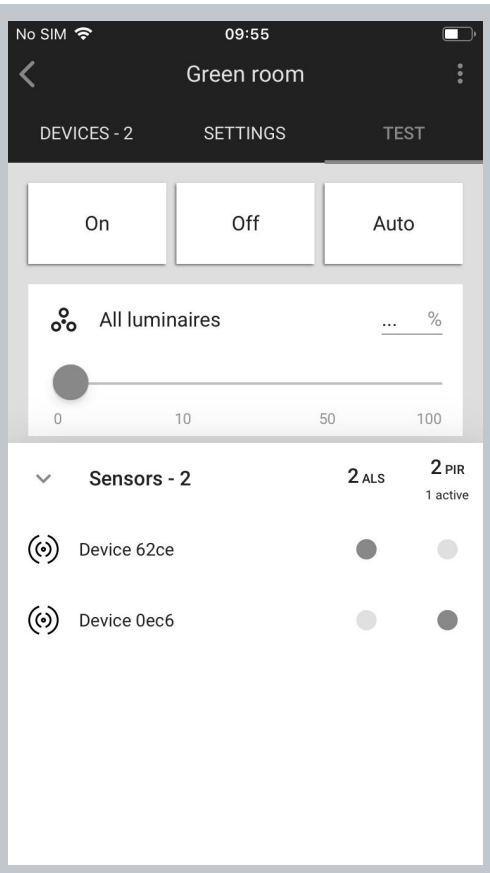
Press the button next to "**All luminaires**". You should immediatelly see all devices that are added to the selected zone blinking.



- For a zone where the “Multiple scenes” scenario has been selected, the **TES**T tab will display 3 options:
  On / Off and Auto.
  Off: all luminaires switch off.
  On: all luminaires go to 100% .
  Auto: turns on the automatic settings for the luminaires.

Testing individual luminaires:

- Scroll down to see all luminaires added to the selected zone.
- Use the slider to change light level, or enter the value manually (in **%**).
- The selected luminaire should react immediately.



Sensors view:

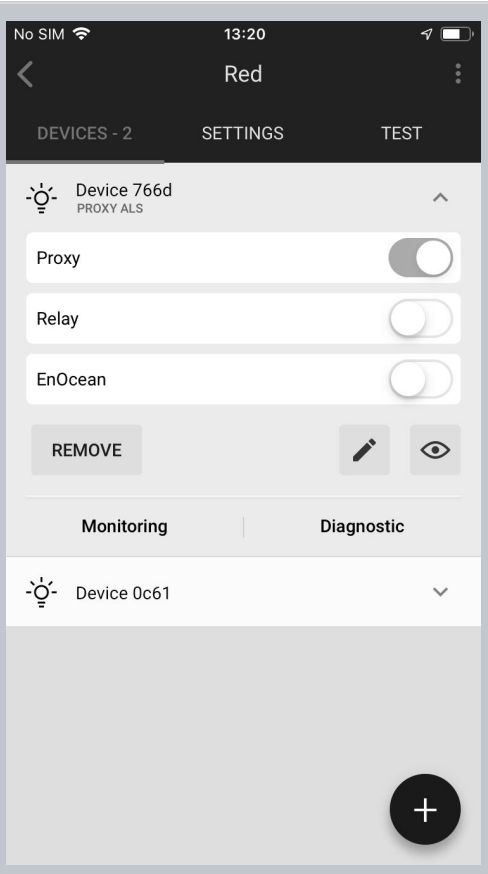
- Sensors can be previewed via the **TEST** tab. The list at the bottom of the screen shows how many sensors are available (in this example, 4 sensors are in the Conference room zone)
- To preview the sensors, expand the list and see which sensors are currently active.
- If no sensors are available, the list is empty.

Check the devices list

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

Identifying devices added to a zone

It may sometimes be necessary to identify a specific device which has a problem or should be configured as a relay or EnOcean adapter.



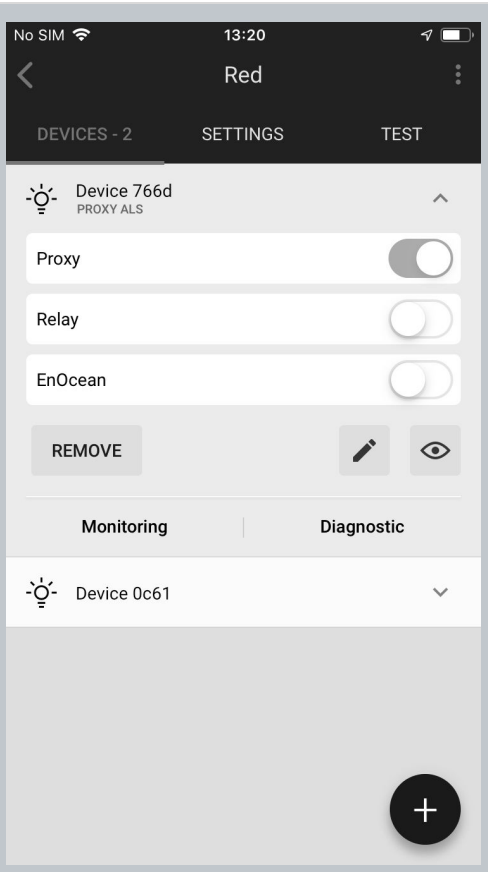
Identify a device

by tapping the **Device** icon:

Or by tapping the **eye icon**:

The selected device should then draw attention e.g. by flashing.

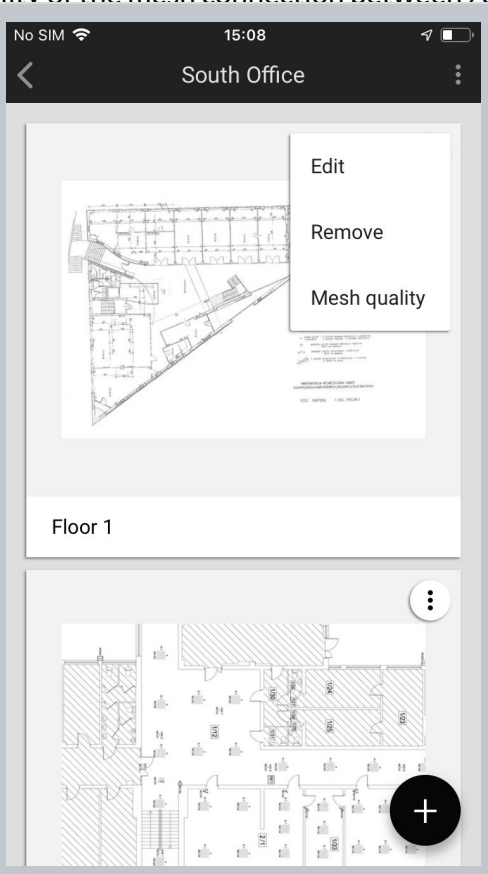
Rename a device



- To change the name of a device, expand the device on “DEVICES” view and tap the pencil icon  to change the name. The new name will be visible in the mobile and web application.
- Once the name is changed, the new name will be visible in the mobile and web application.
- If the device is removed from the zone and recommissioned, it will appear in the mobile and web application with its default name.

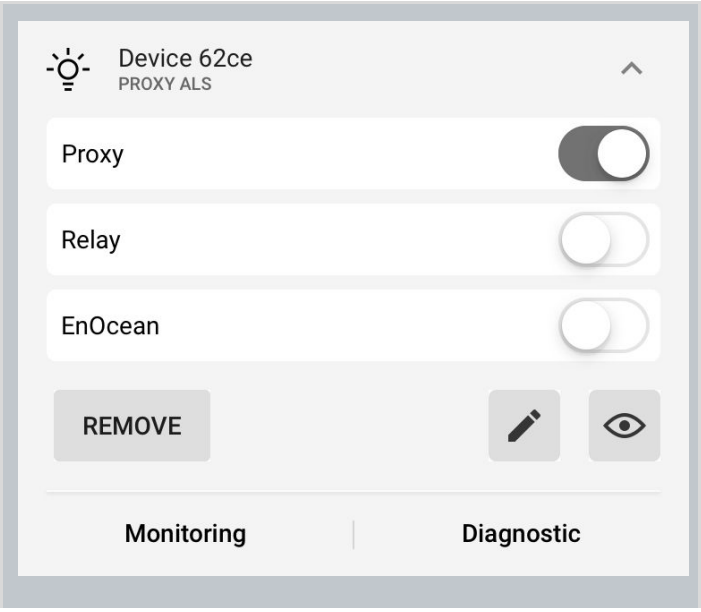
Device mesh network settings

The BlueMesh
mobile app allows users to run the Mesh quality test that allows a user to check the availability and quality of the mesh connection between zones.

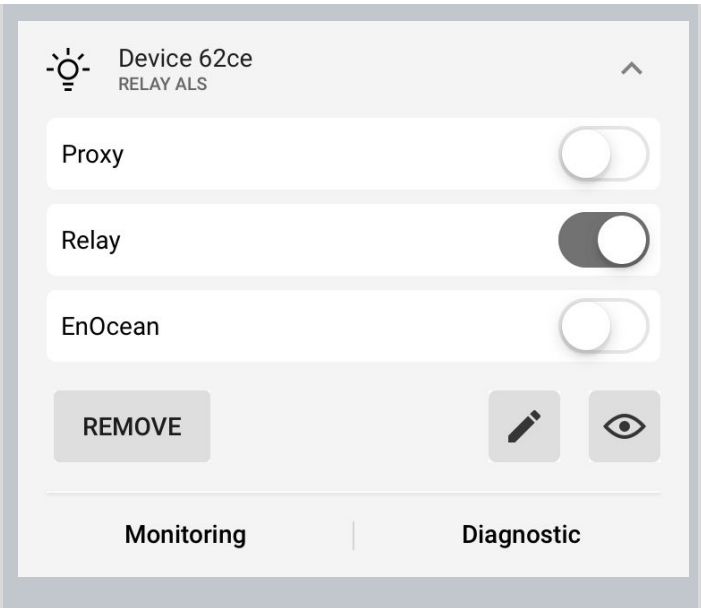


- To start running the test, select the project where you would like to check the connection.
- Then, select the correct plan, click the “More” button and choose “Mesh quality”.
- Testing your mesh network should start immediately.
- The result of the test will show the overall mesh network efficiency as a percentage as well as a visual mesh network quality map with problematic areas shown in red.

After running the Mesh quality test and discovering some mesh problems, you might want to customize two network parameters for any device in a zone: Mobile device proxy and Relay. To do it, open the “Devices” tab, and select the device you want to look up.



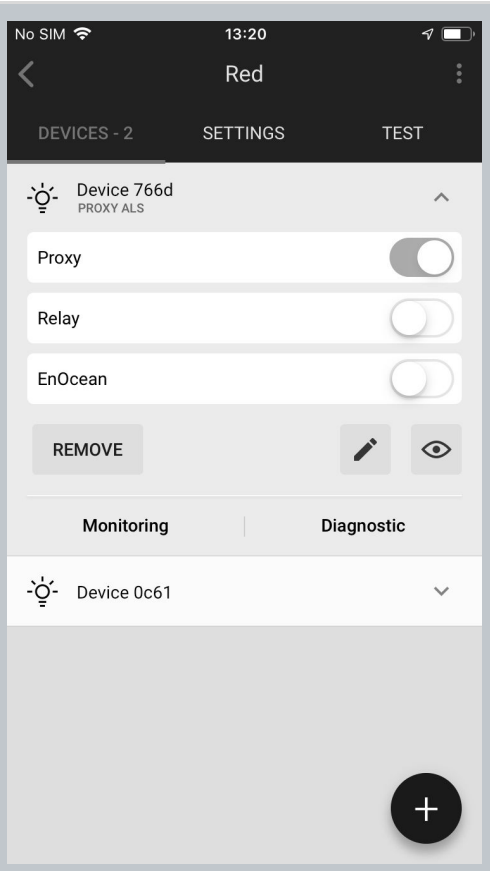
Mobile device proxy - if enabled, this sets up the device to act as a gateway to allow the BlueMesh mobile app to connect to the mesh network.[10]

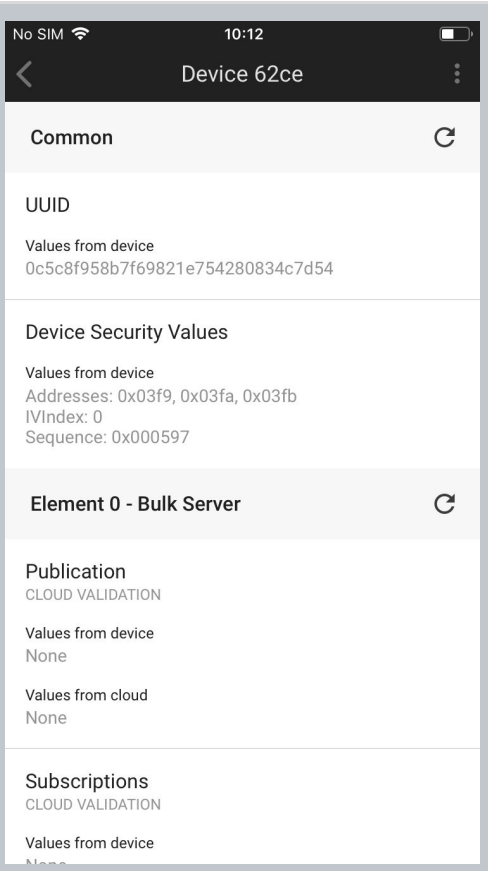


Relay - the device relays messages on into the mesh network.[11]

[10] By default, the mobile application will make sure that at least one device in the project has the proxy enabled. Please be aware that disabling or removing proxy device affects the performance of connecting the application to the network.
[11] Enabling both the Mobile device proxy and Relay functions on the same node will lead to inefficient performance and is not recommended.

Device diagnostics





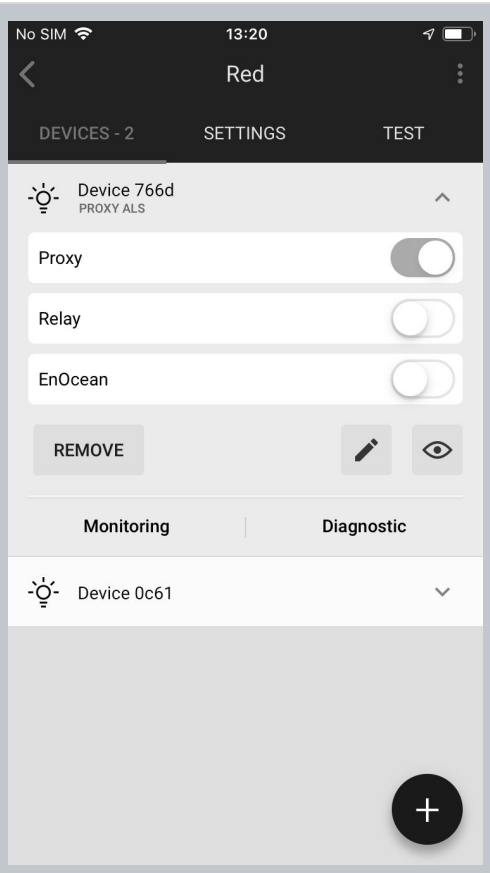
The device diagnostic report may be helpful in the event of any problems. It gives basic information such as:

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

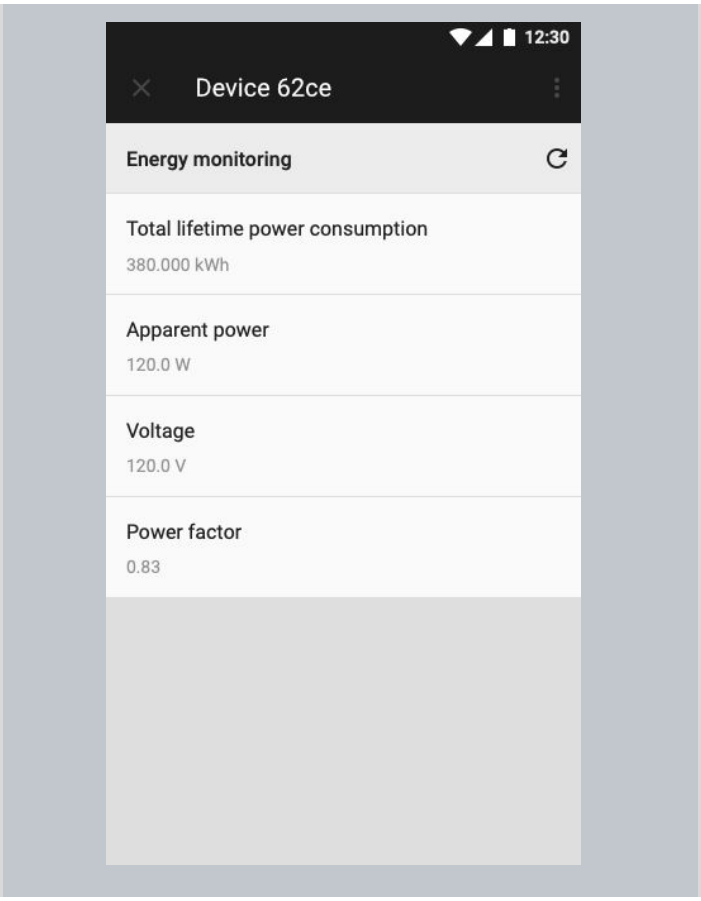
Monitoring

The Monitoring feature allows you to see the energy consumption of compatible devices in the mobile app. These values include:

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



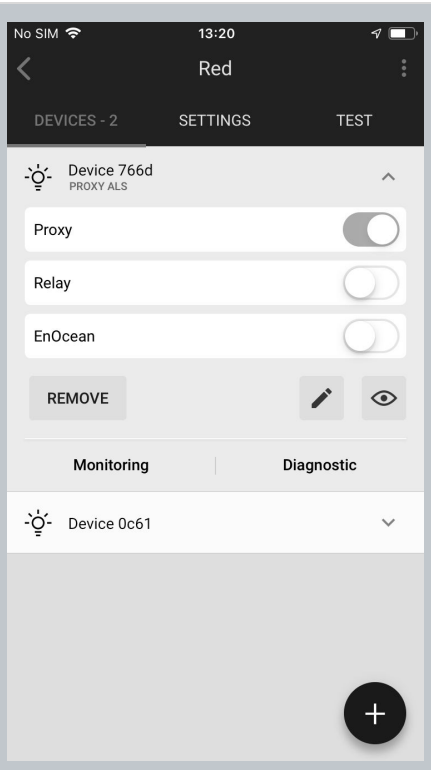
- Go to the "**DEVICES**" tab.
- Expand the down arrow for the device you want to check.
- Tap "**MONITORING**".



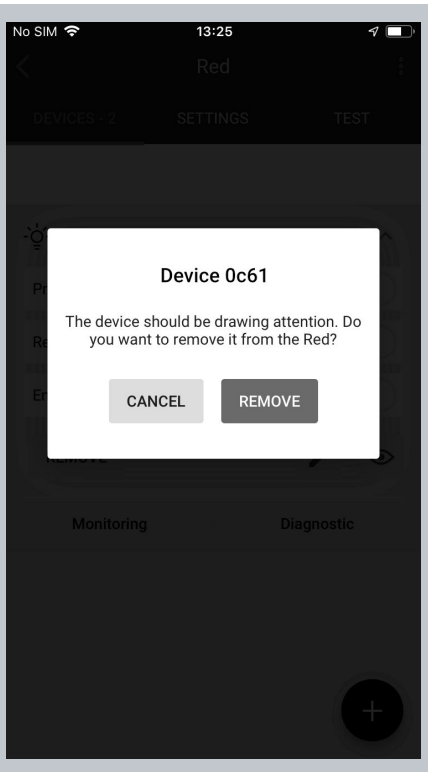
- The energy consumption values are displayed.

Remove device

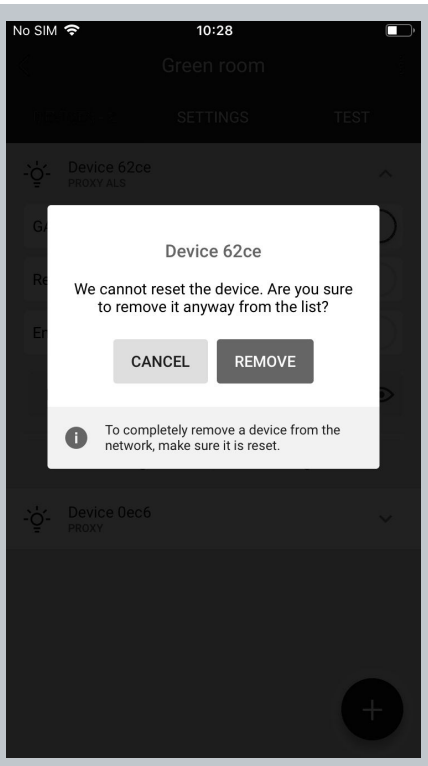
You may want to remove a device that has been added to the wrong zone, or has a fault.



- Go to the "**DEVICES**" tab.
- Select the device you want to remove. The list element will expand.
- Tap "**REMOVE**".



- Check if the device is attracting attention e.g. by flashing.
- If it's the right device, tap "**REMOVE**" again to confirm. This will remove it from the network and restore it the default settings, making it available for adding to another network.

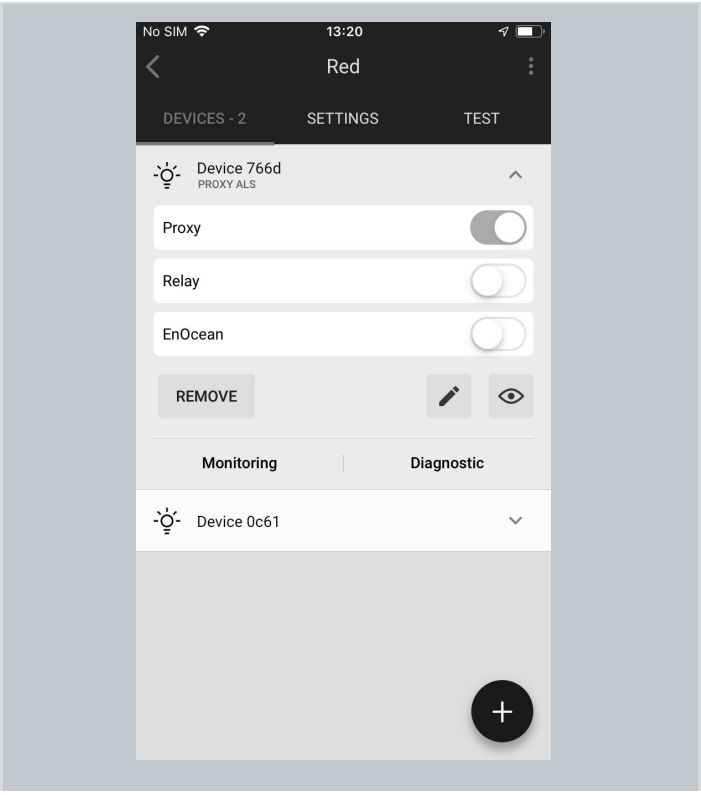


- When the device is unavailable, broken or has already been removed , you can also remove it from the devices list and project.
- In this case you can click "**REMOVE"**, to get rid of the device from the list. However, to completely remove a device from the network, make sure it is reset.

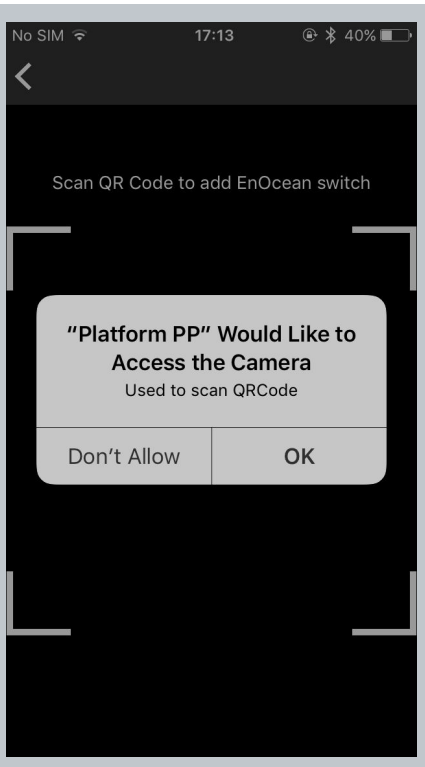
NOTE: The mobile app will not allow you to remove the last mobile device proxy in the project if it still contains other devices, as this will mean you will no longer be able to connect with them.
To remove the last proxy, remove all other devices from the project first. Only then will the app allow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

EnOcean Switch commissioning

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



- Go to the "**DEVICES**" tab.
- Select the device you want to act as the gateway for the EnOcean switch.
- Tap "**EnOcean**" to enable it as an EnOcean adapter.



- 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.

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 gateway.

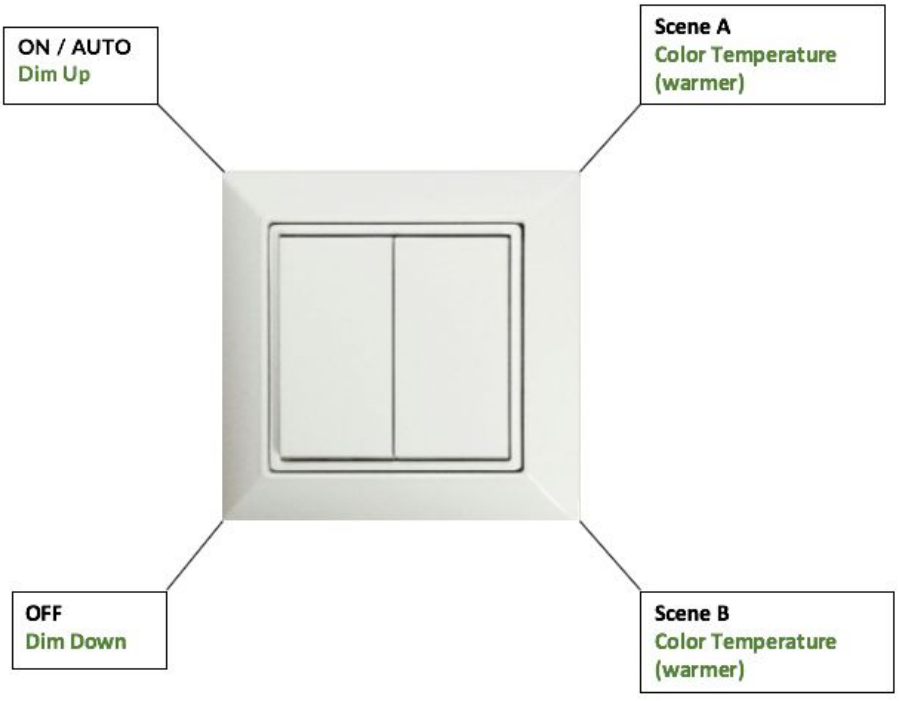
NOTE: Multiple zones can be controlled with a single EnOcean BLE switch by enabling the EnOcean adapter for one device in each zone. All such devices must be within the range of the EnOcean BLE switch that controls them.

Using the EnOcean switch

EnOcean BLE switches are automatically configured as follows:

- Left rocker is used for manual control and dimming
  - Short press up - ON / AUTO resume
  - Short press down - OFF
  - Long press up - Dim Up
  - Long press down - Dim Down
- Right rocker is used to trigger preset scenes and control color temperature (if available) (see: Scenes setup)
  - Short press up - Scene A
  - Short press down - Scene B
  - Long press up - Colder[12]
  - Long press down - Warmer[12]

User can use two types of EnOcean presses (long & short presses) interchangeably. It means that the left rocker can be e.g. pressed first with a long press to turn the light ON and then with a long press to dim up the light.



* Short press actions - indicated in black.

* Long press actions - indicated in green.

[12] Color Temperature applies only to zones where compatible tunable white fixtures & appropriate version of the BlueMesh firmware have been added. Without these components, the right rocker color temperature adjustment (colder / warmer temperature buttons) will not work.

Example behavior of EnOcean switch in various scenarios

In some scenario settings**, t**here is an additional "**Manual override timeout**" parameter (defined in minutes) that is set via Commissioning Web app. When user turns on one of the preset scenes from the EnOcean switch, after (x) minutes of **detected vacancy in the space**, the light will be switched to its default settings.
For more information on specific scenarios please check the Scenario parameters for customization chapter.

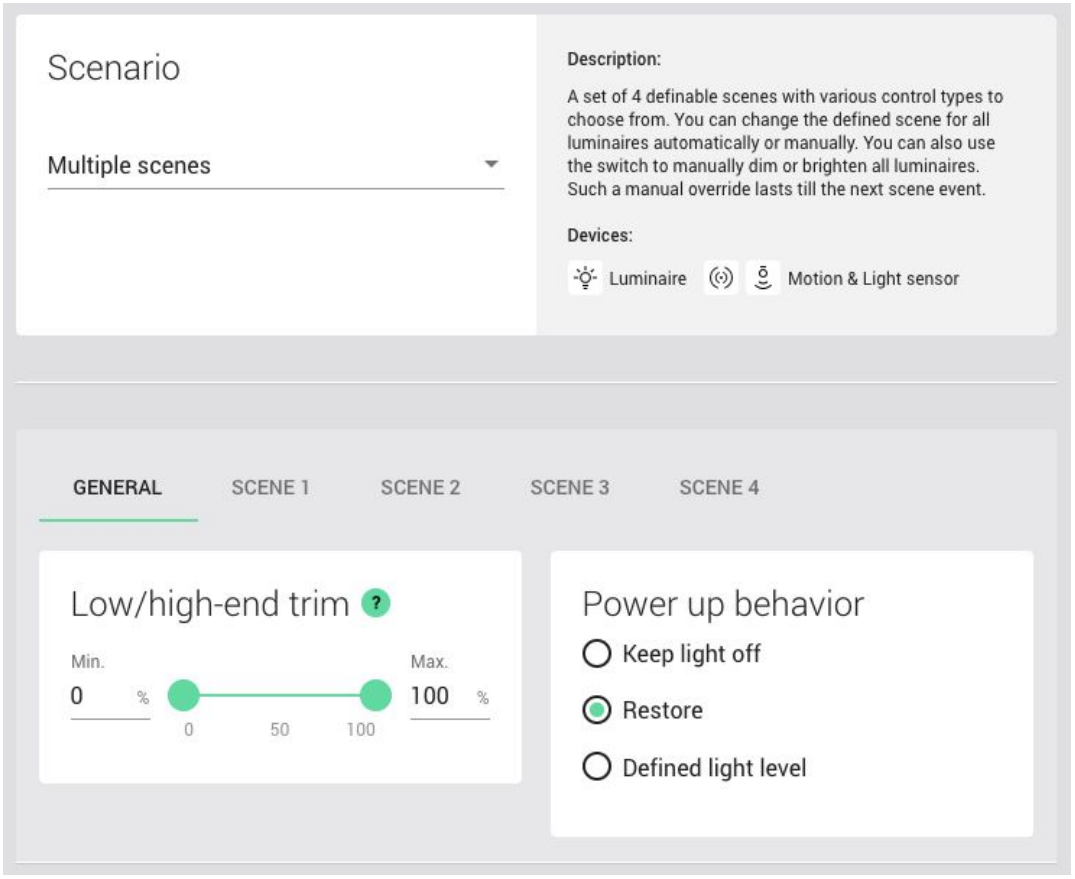
Scenario type	EnOcean behavior
Manual Control *All luminaires are switched on and off manually with a wall switch.*	**Characteristics:** • NO automatic control. User adjusts the lighting only by pressing the switch buttons. • Manual ON / AUTO button - sets the light to the "Default light level" set in the profile settings. • Manual OFF - sets the light to 0%. • After changing lighting behavior (e.g. switching off, dimming, changing scene), it must be manually restored as there is no automatic behavior defined. • "Manual override timeout" parameter - not available in this scenario.

All types of **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.
	Characteristics:
	• Pressing ON / AUTO button sets the light to the Occupancy mode level and it lasts for a defined timeout (available in profile edition).
	• "Manual override timeout" parameter is available.
	  ○ This parameter is triggered after pressing: OFF, Dimming Up/ Down, Scene A, Scene B on the EnOcean switch.
	  ○ The timer is resetted after detecting occupancy in the room. Example: Manual override timeout is set to 10 minutes. User presses OFF button on the EnOcean switch and leaves the room.
	  ■ **CASE A**: Occupancy in the room is not detected for 10 minutes. The lights are switched back to the default settings.
	  ■ **CASE B**: Occupancy in the room is detected after 3 minutes. The timer is resetted and starts counting again from 10 minutes.

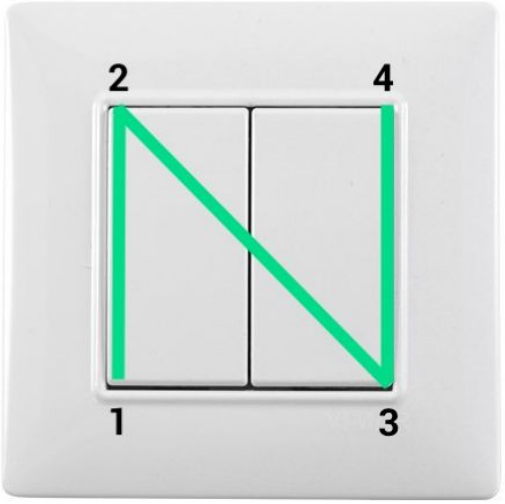
Multiple Scenes *A set of 4 definable scenes with various control types to choose from. You can change the defined scene for all luminaires automatically or manually. You can also use the switch to manually dim or brighten all luminaires. Such a manual override lasts till the next scene event.*	**Characteristics:** • 4 scenes triggered by short pressing the EnOcean switch. • Dimming available after long pressing the switch. • "Manual override timeout" parameter is not available. • More information about specific scenes recall available here.

EnOcean switch support for Multiple Scenes

Multiple Scenes scenario allows the user to define up to 4 scenes to recall. Users can change light control behavior from one automatic scenario to another e.g. with different levels to maintain. Scenes set in the Multiple Scenes scenario can be triggered by scheduling and by pressing the EnOcean wall switch. The below image shows an example setup for Multiple scenes scenario.



Short press:
The configured scenes (see the image above from the Commissioning app) are triggered by pressing the EnOcean switch buttons. It might be helpful to imagine the **N** letter shape on the surface of the switch, where each button is a place which should be pressed for the scene recall. Check the below image to see how the EnOcean switch operates, where 1 = scene 1 , 2 = scene 2, 3 = scene 3, 4 = scene 4.



“N” for EnOcean

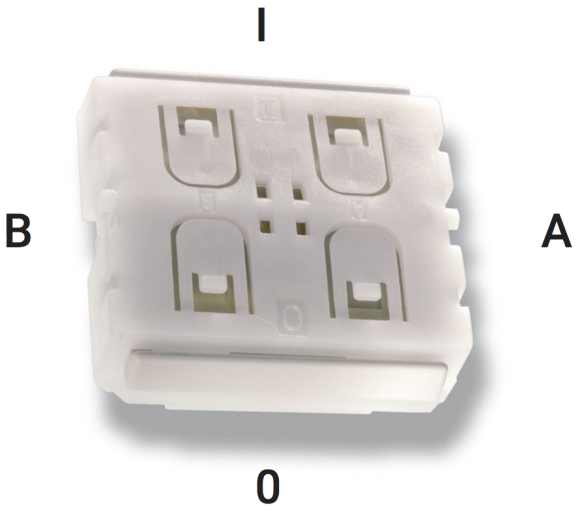
In case of long press, the switch behavior goes to: 1 = Dim Down, 2 = Dim Up, 3 = Color Temperature (Colder), 4 - Color temperature (Warmer).

Supported EnOcean switch types:

	
Easyfit Single (EWSSB)	**Double Rocker** (EWSDB)

Easyfit Single Rocker BLE Switch (ESRPB)

Easyfit Double Rocker BLE Switch (EDRPB)



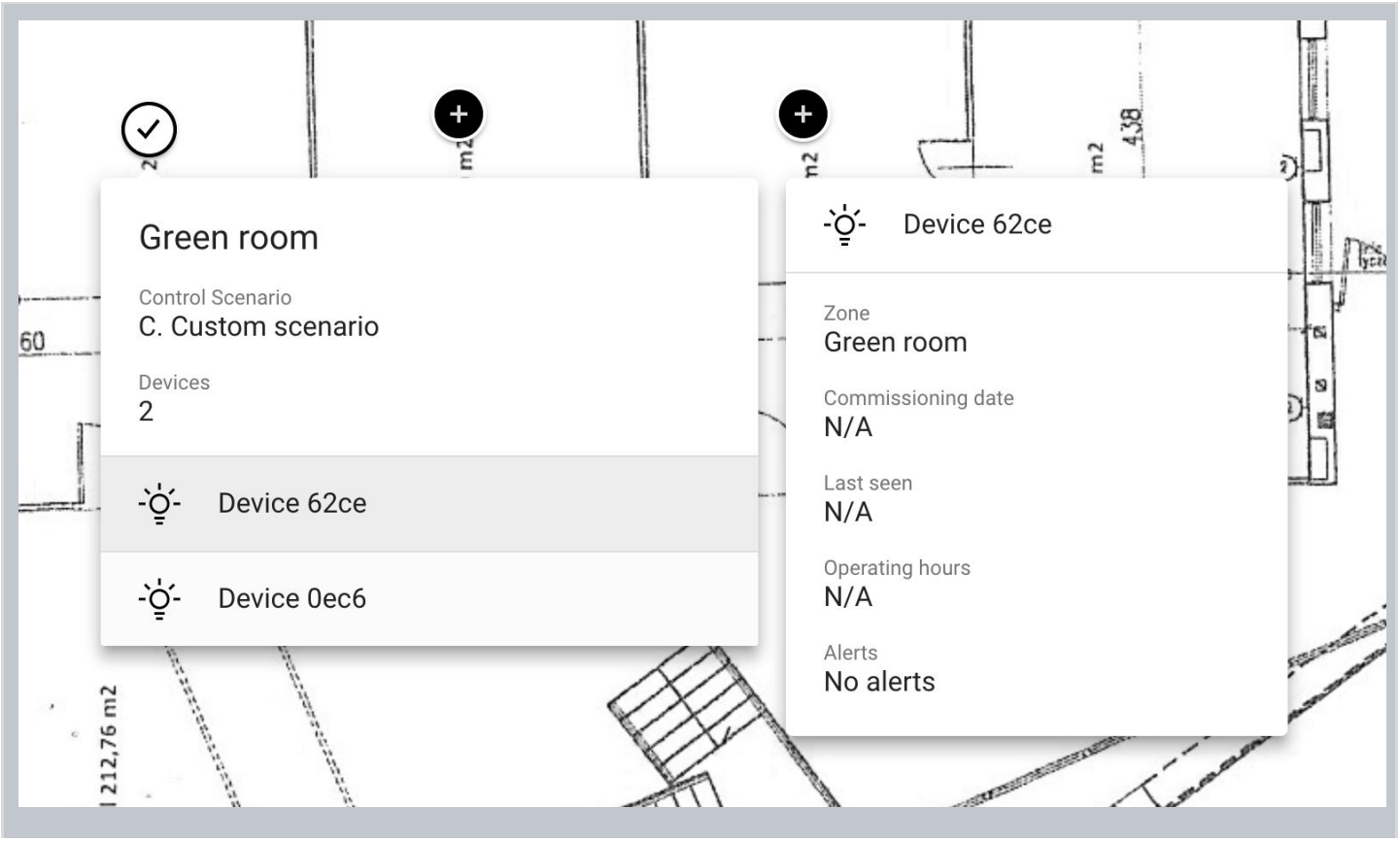
In order for switches to operate as described above, the EnOcean BLE Switch Module (PTM 215B) should be mounted so that the **"I"** label is above the **"O"** label.

Resetting EnOcean switch

If the EnOcean switch has been reconfigured to use nonstandard channels, it might not work correctly with BlueMesh firmware. In order to set the switches back to standard Bluetooth advertising channels, the switch needs to be reset to factory settings. The process has been documented in EnOcean *ESRPB & EDRPB User Manual* in chapter *5.4 Factory Reset*. The procedure is as follows:

> In order to execute such factory reset, the rocker(s) and the switch housing have to be removed from PTM 215B so that all four PTM 215B module contacts and the energy bar are accessible.
>
> After that, all four button contacts (A0, A1, B0 and B1) have to be pressed at the same time while the energy bow of the PTM 215B module is pressed down.

Check commissioning status

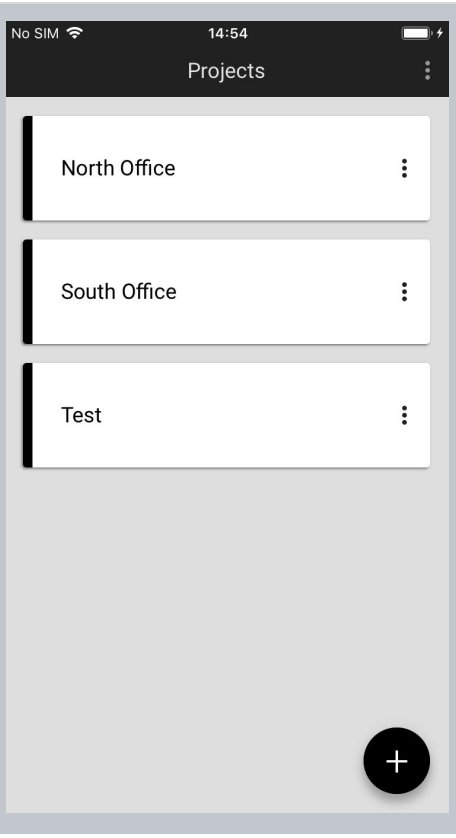


The status of commissioning can be checked at any time using the BlueMesh web application which displays the status of each zone (see: Zones), as well as a summary for each zone, i.e. number and list of devices already added to the zone.

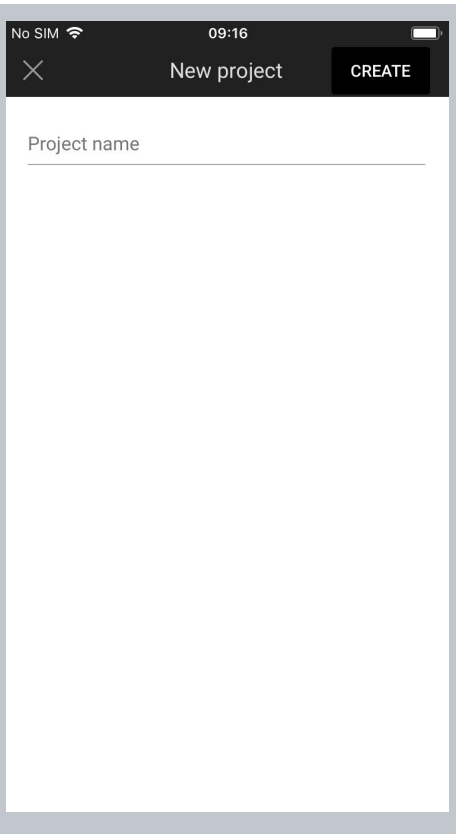
4. Commissioning with the mobile app

The BlueMesh mobile app supports some basic project management features such as creating projects,creating areas and creating and editing zones, allowing users 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 device without opening the BlueMesh web app account.

Create a project

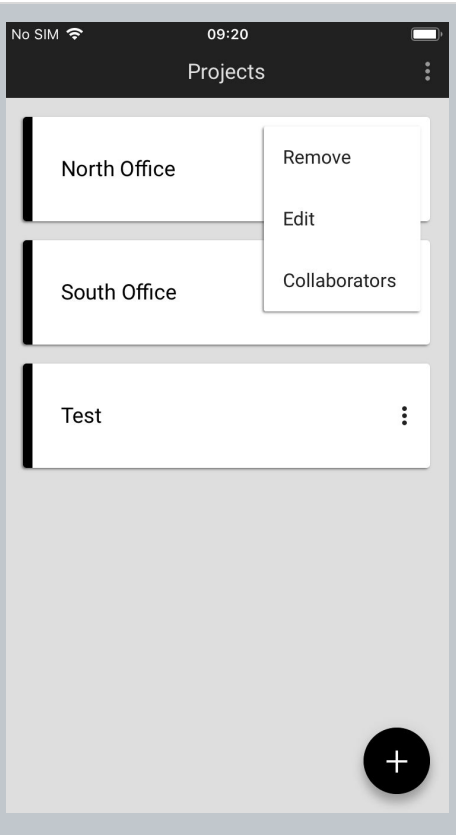


- Go to the projects list.
- Tap the + button.

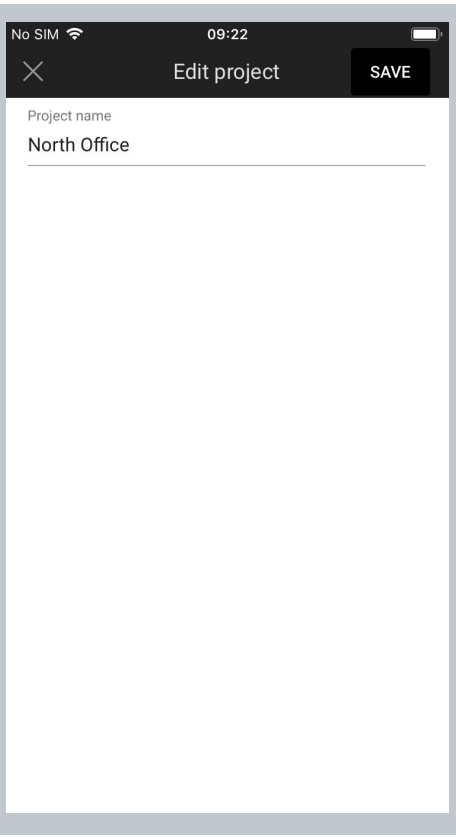


- Enter a project name and tap "**CREATE**".
- The project will be created and displayed on the projects list.

Edit a project

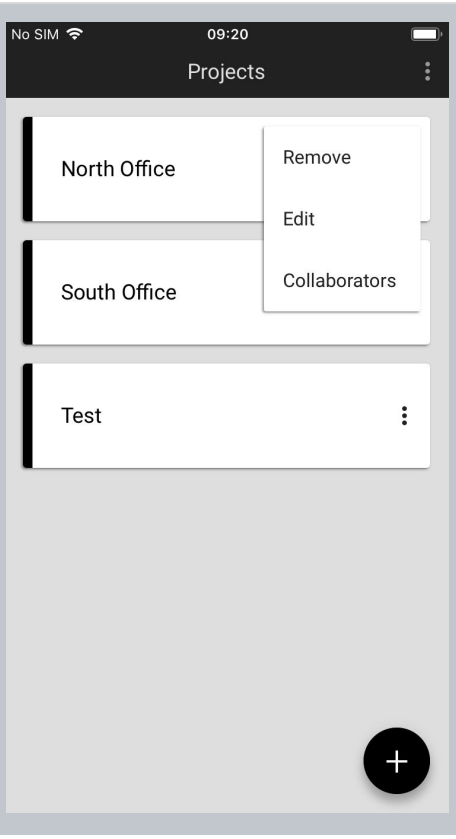


- Go to the projects list.
- From the menu,  select **“EDIT”**.

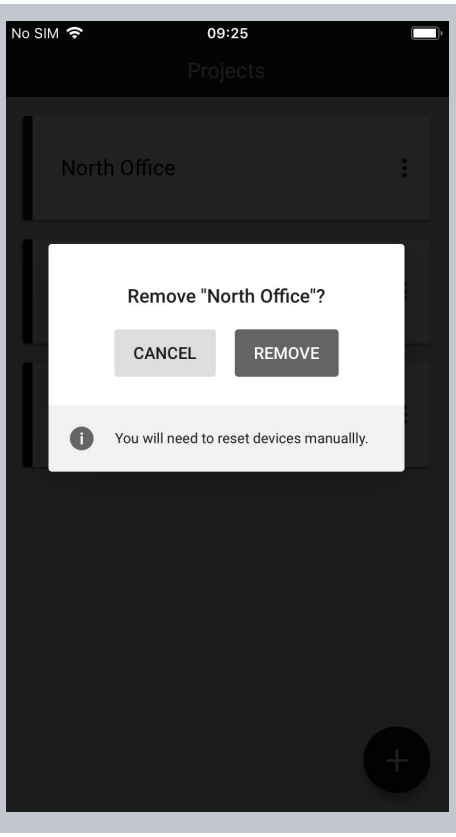


- Change the project name and save it by tapping “**SAVE**”.

Remove a project



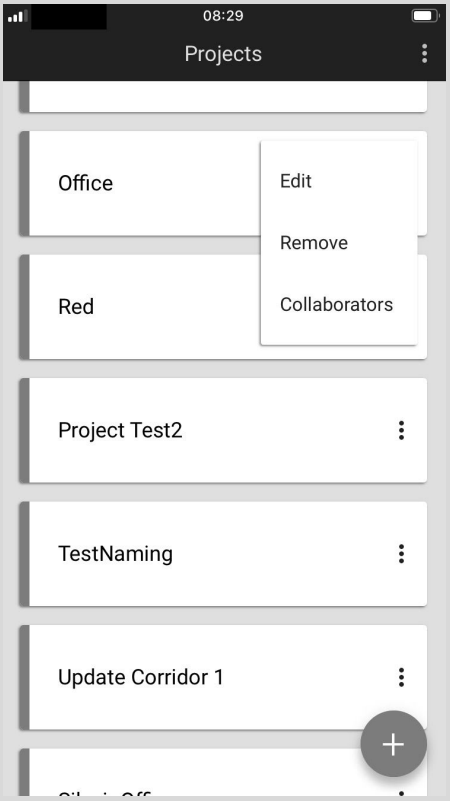
- Go to the projects list.
- From the menu , select **“REMOVE”**.



- In the confirmation popup, click “**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.

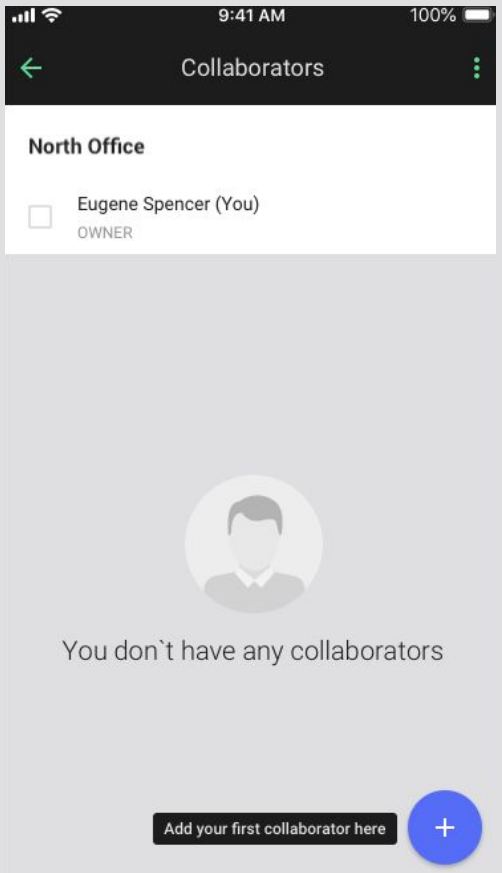
NOTE: Removing a project also removes any devices that were commissioned in it. These devices must be reset back to factory settings manually before they can be added to another project.

Invite & manage project collaborators



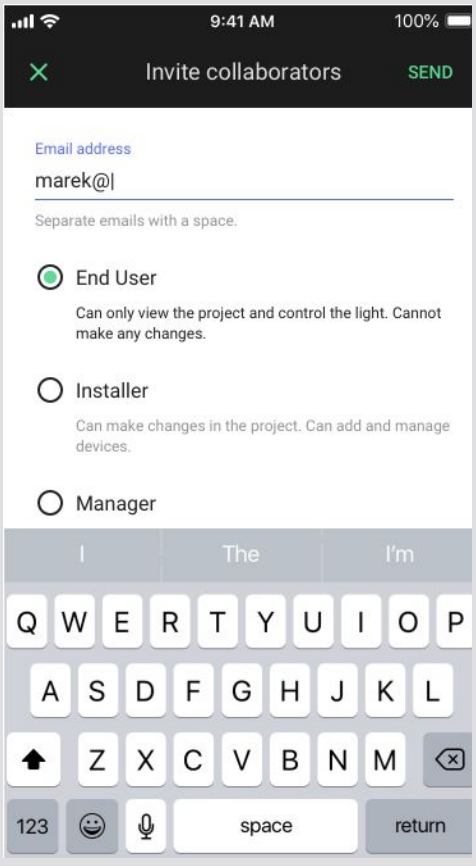
Multiple users can collaborate on a project by creating and editing the commissioning plan and, most importantly, in carrying out on-site commissioning thereby shortening the most critical part of the whole project. Currently, there are 4 user roles supported in the commissioning apps: owner, manager end user and installer. To get more information about specific roles, click here.

Click context menu icon  of the selected project and click on "**COLLABORATORS**".



On the list of collaborators,

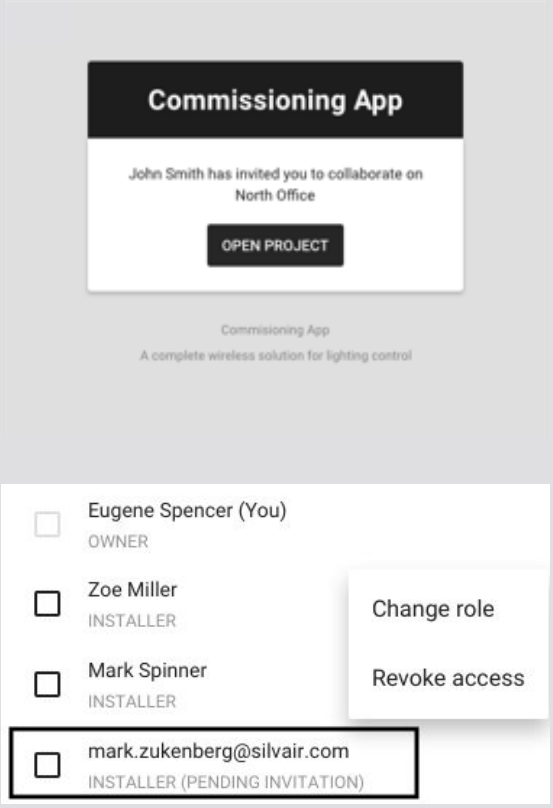
tap the + button.



- Enter one or more email addresses to invite collaborators and share access to the project.
- Read more about user role permissions here.

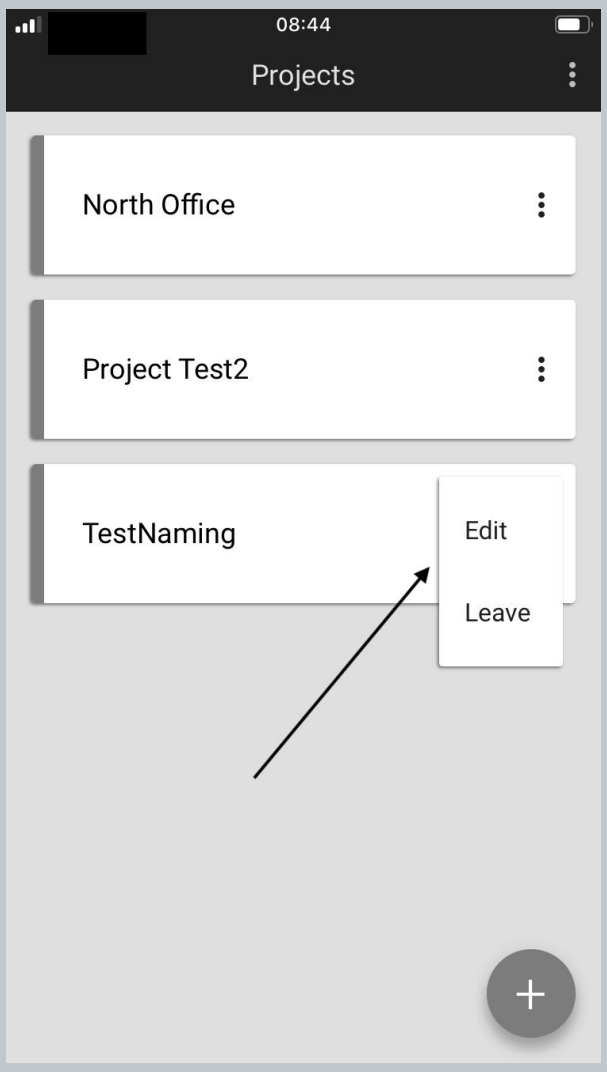
- Select the level of access for the user you're inviting.
  - End user is the default selection for a newly invited user. It can be changed by tapping installer, or manager below.
  - If you're an **owner, or a manager** of the project, you can select a new user to be: manager, installer or end user.

- If you're an installer, or end user in the project, you **do not** have access to invite collaborators view at all.



- 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 labelled with **"Pending invitation"**on the list of collaborators.

Change or transfer user role



*User logged in as **installer** to the project.*

Change user role:

The app allows 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.

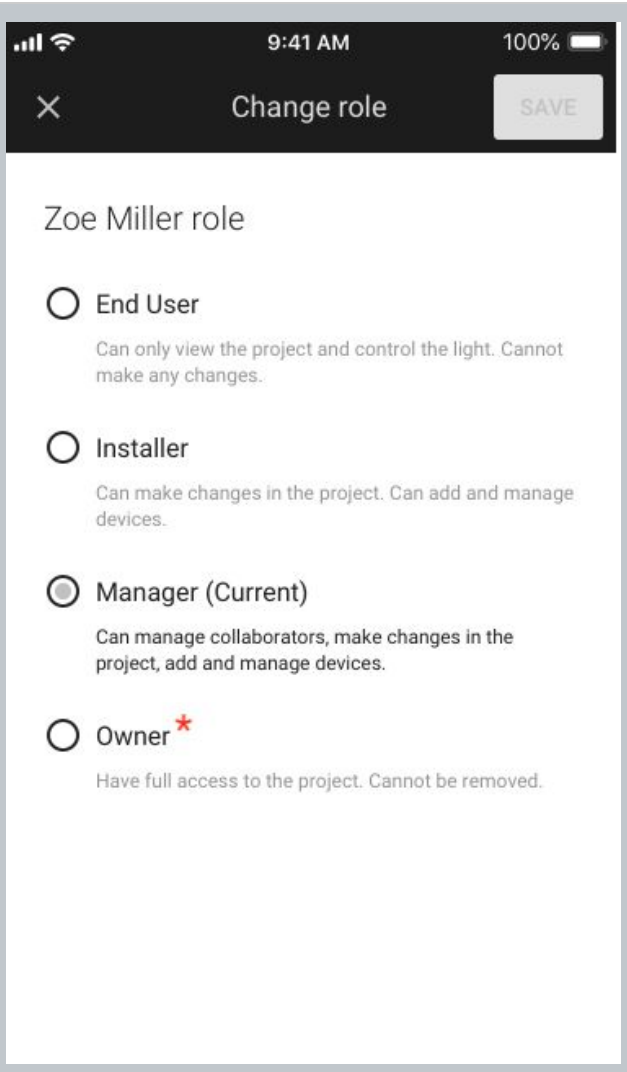
Changing roles is possible only for the following user roles:
- Owner
- Manager

NOTE:
- Installer or end user **do not** have access to the collaborators view.
- When user is logged in as installer / end user, they can't even see the "Collaborators" button after pressing the project menu.
- They can only: edit project name, or leave a project.

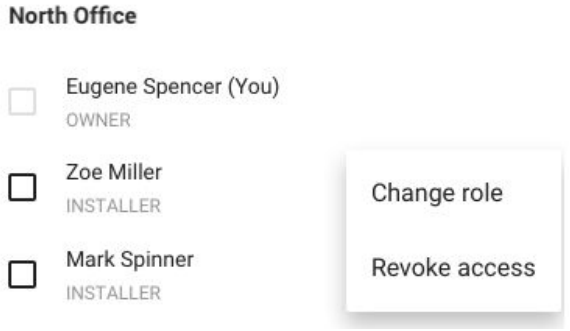
Change user role:

- To change the role (available **only** for owner / manager role), select the correct project on projects list and press "**Collaborators**" from the context menu icon  .

- Next, press the  button next to username and select "**Change role**".



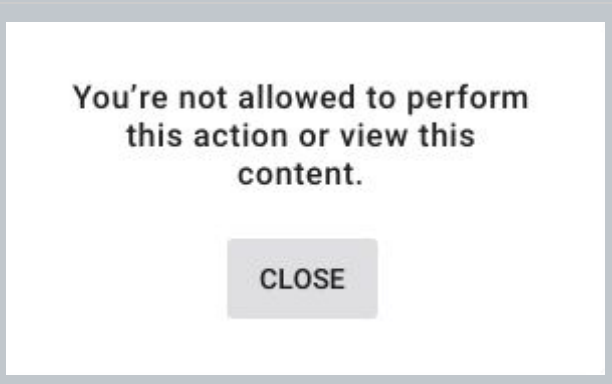
** This option will be available only if you're logged in as owner and you want to transfer your ownership to another user.*



Select the desired role:
- Manager
- Installer
- Owner
- End User

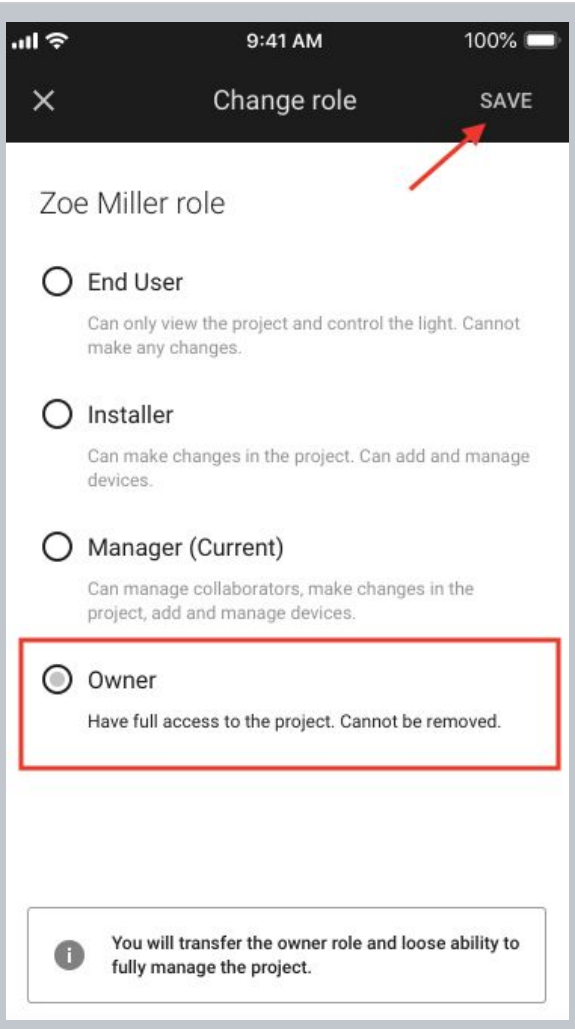
Confirm by pressing "**Save**". You'll see the confirmation : user role has changed.

It is also possible to change user roles in the web app.



NOTE:

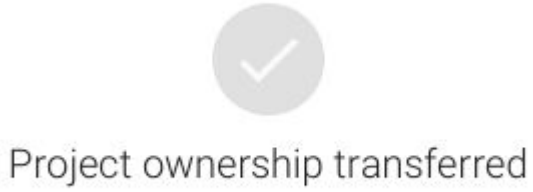
- If a collaborator's role was changed from manager / owner to an **installer, or end user** role, this user will no longer be able to see the collaborators view in the app.
- The alert on the left is shown to the user whose role has been changed to installer / end user immediately after changing their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



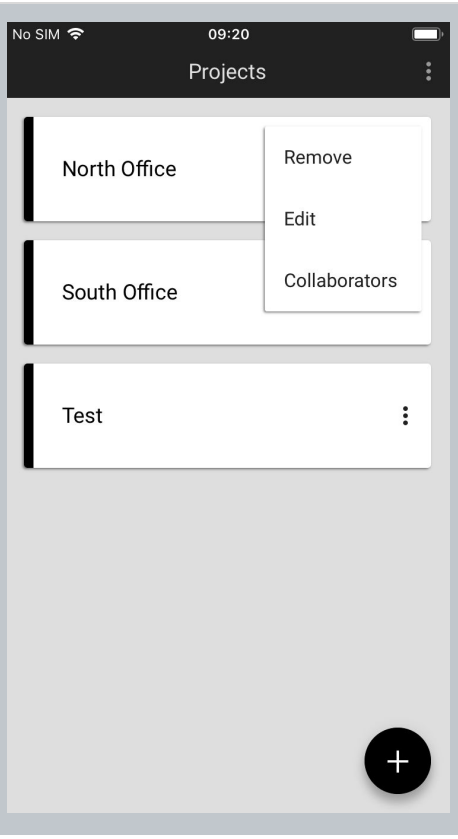
Transferring project ownership:

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

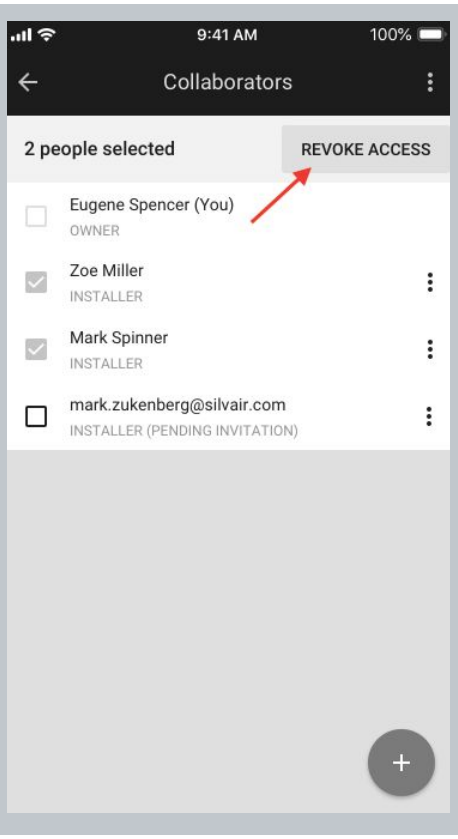
- If you're logged in as owner, you can transfer your project's ownership to another user.
- The new user who received the transferwill become a new owner. **The former owner of a project will no longer have access to the project.**
- To transfer the ownership:
  - Log into the mobile app as owner
 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



Revoke access to the project

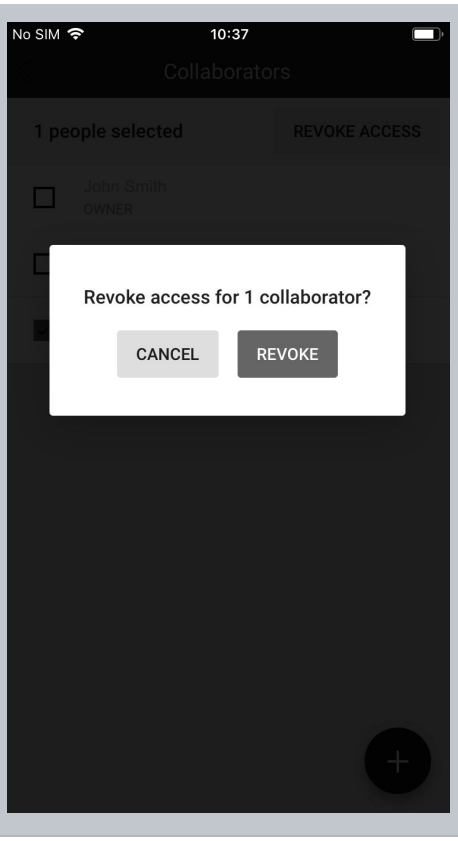


Tap context menu icon for the project and select "**COLLABORATORS".**



Select one or more collaborators by pressing the checkbox.

Tap "**REVOKE ACCESS**".

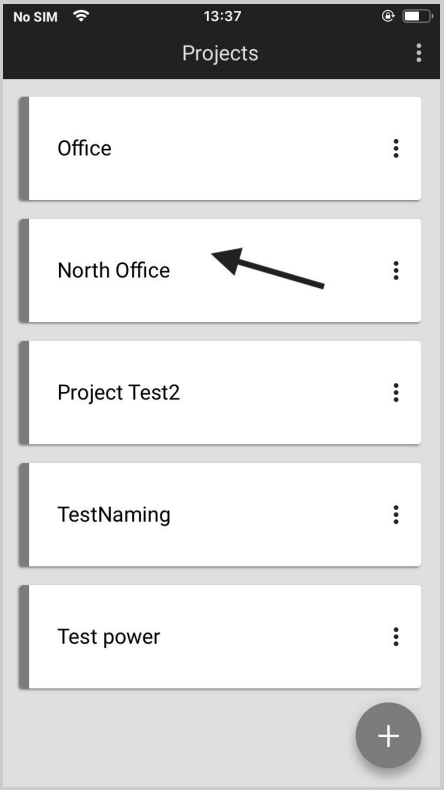


Confirm by pressing "**REVOKE"** on the popup window.

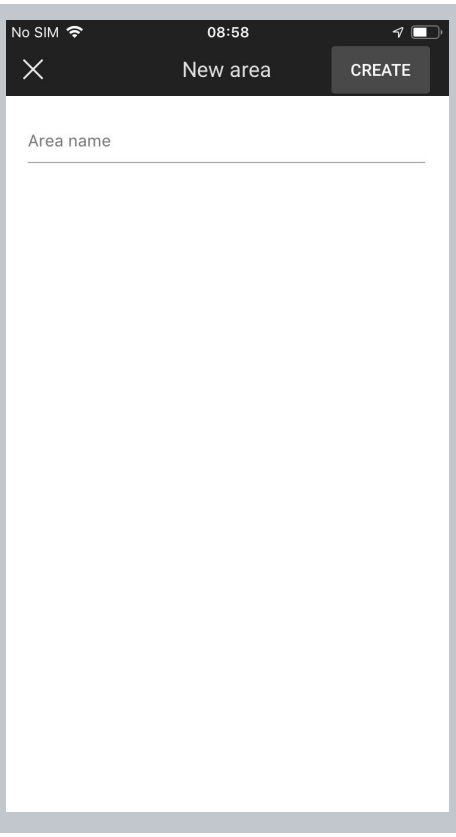
NOTE: Selected users will be removed from the project and will no longer have access to it from the web app and the mobile app.[13]

[13] 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. When the original owner is removed as a collaborator, ownership is automatically transferred to the next collaborator.

Create an area[14]



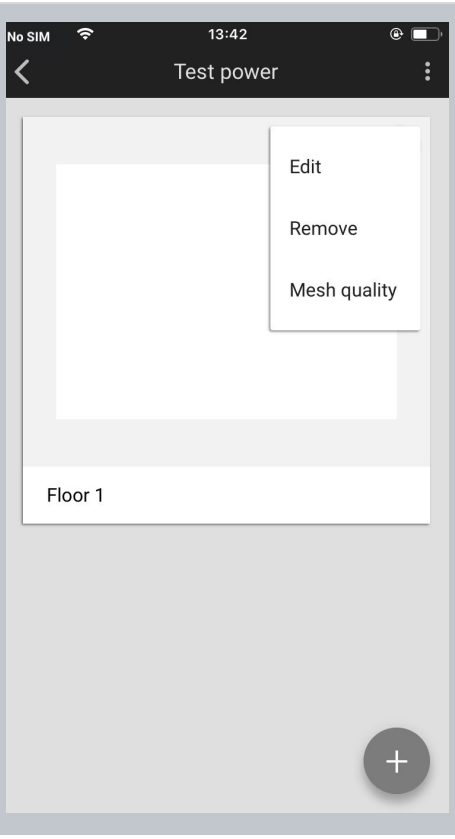
- Select the project from the list, tap it to open
- Tap the + button to add an area.



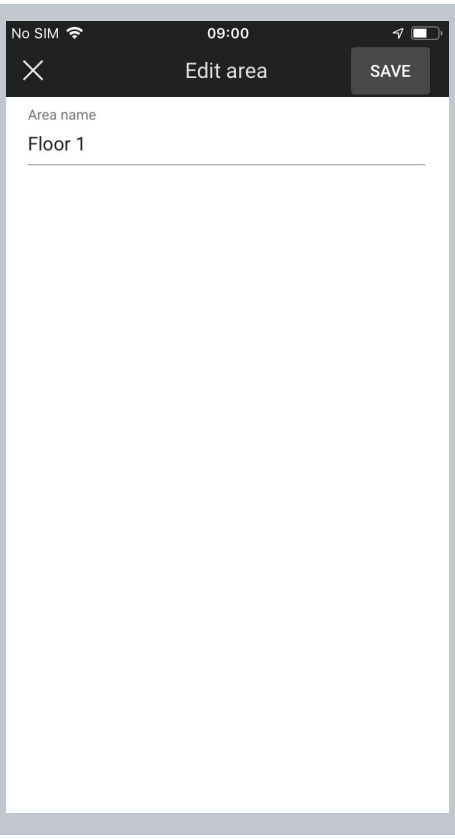
- Enter a name for the area and tap "**CREATE**".
- An area will be created and displayed on the area list with an empty area plan image.

[14] Please note that currently it is not possible to upload a plan to a project using a mobile app - this can only be done via the BlueMesh web app.

Edit an area

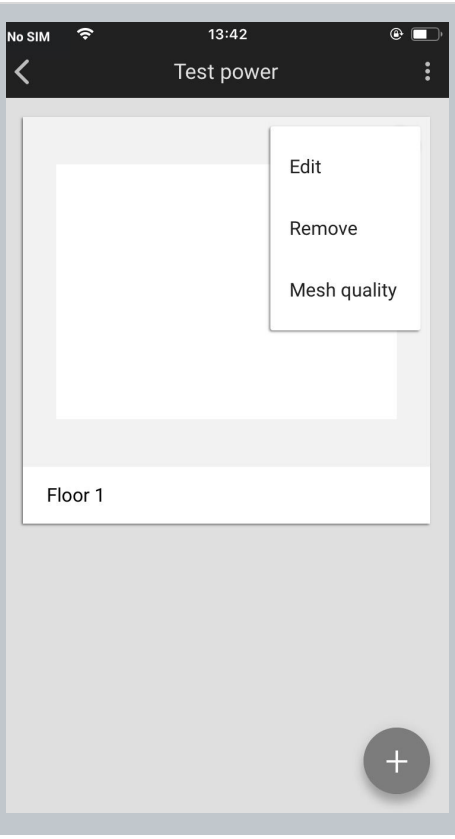


- Go to the area list.
- From the menu, choose **“EDIT”.**

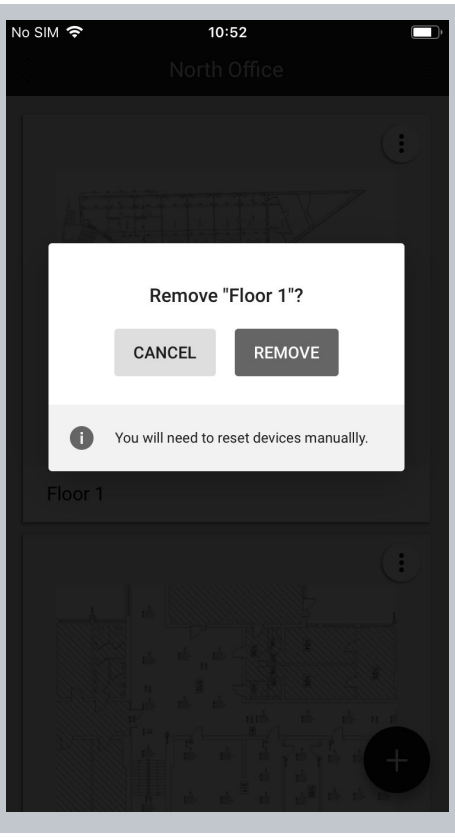


Change the area name and tap “**SAVE**”.

Remove an area



- Go to the project.
- From the menu, choose **“REMOVE”.**

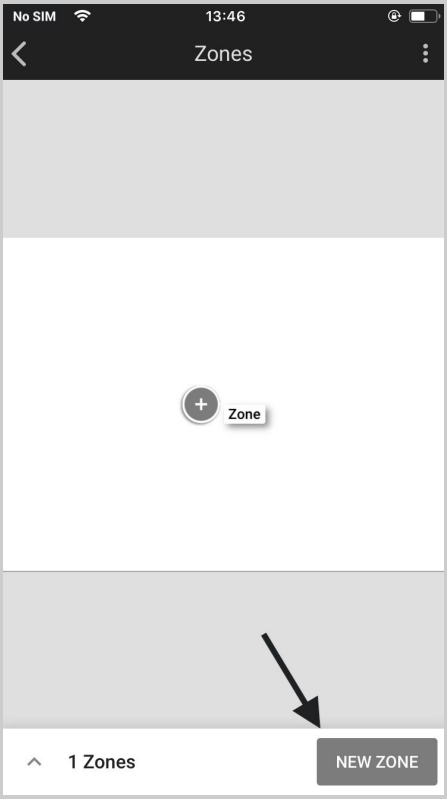


Confirm your decision by clicking **“REMOVE”** on the confirmation popup. In order to prevent accidental removal of the area, the button will be available after 3 seconds.

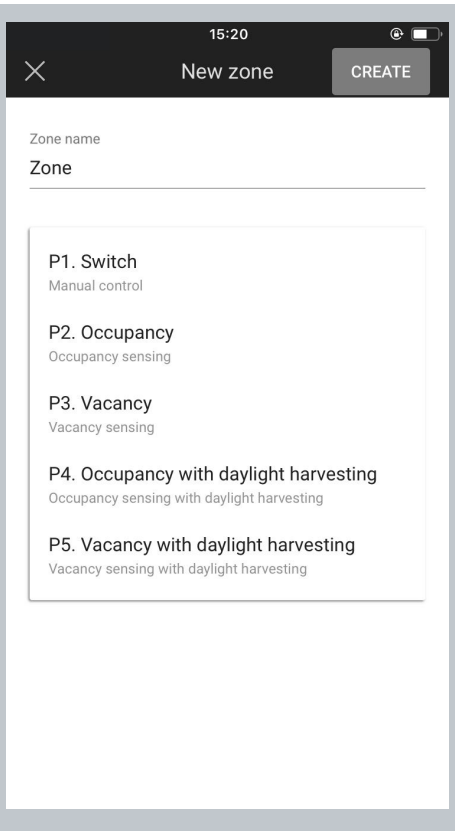
NOTE: Removing an area removes all devices commissioned in it. These devices must then be reset manually before they can be added again.

Create a zone

The mobile app also allows users to create new zones on-the-fly.

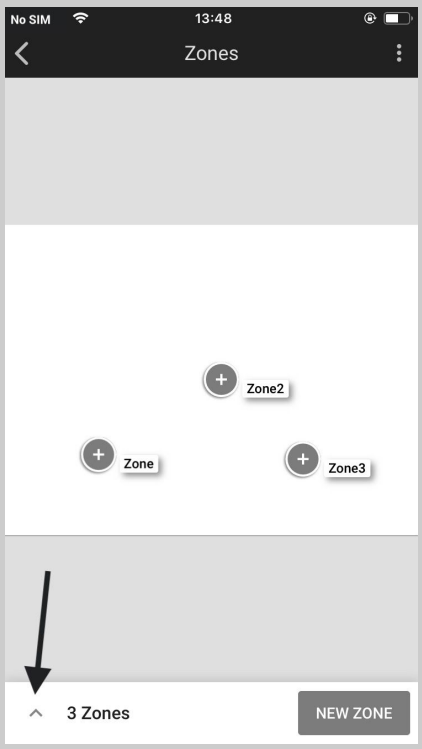


- Sign in into the mobile app.
- Navigate to the project and area where you want to create a new zone.
- Select "**NEW ZONE**".

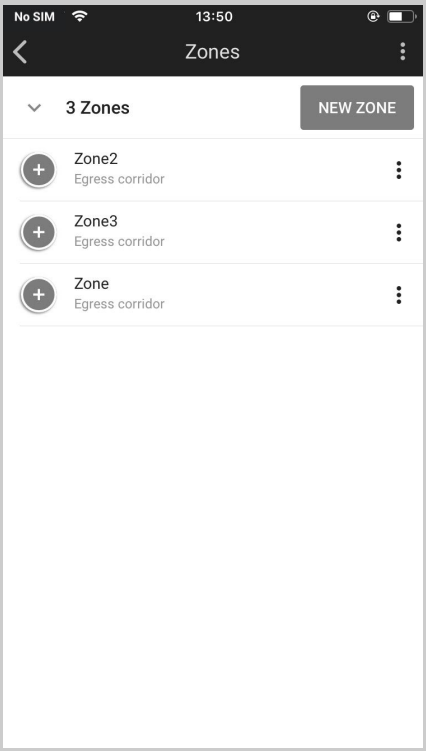


- Enter a name for the zone and select one of the predefined profiles (see: Profiles).
- Tap "**CREATE**".
- The new zone will be listed on the zones list.

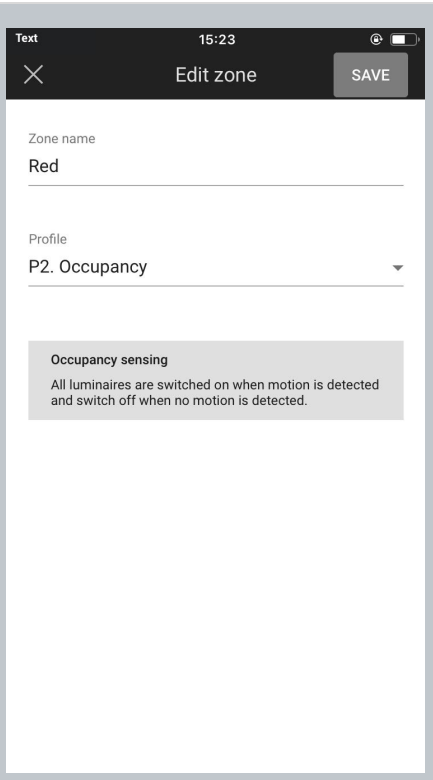
Edit or remove zones



Open the list view by tapping the element at the bottom of the screen with the number of zones, ("**3 Zones**" in this example).



- Tap the  icon to display the context menu.
- From the menu, choose"**EDIT**" or **"REMOVE".**



- Editing the zone allows for changing its name or the assigned profile.

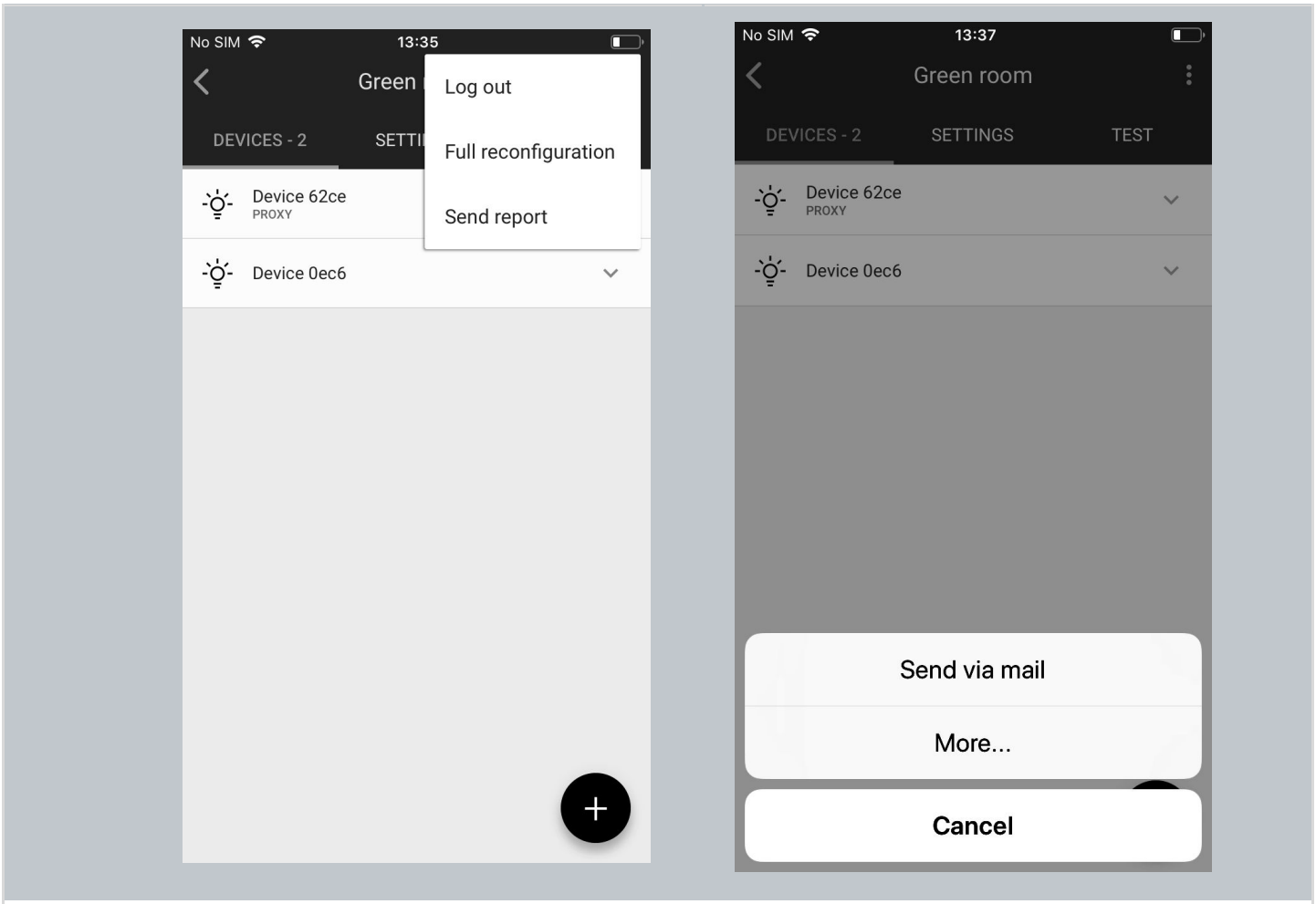
NOTE: Removing a zone removes all devices commissioned in it. These devices must then be reset manually before they can be added again.

This is the last step of the ad hoc commissioning without using the BlueMesh web app.
The next steps to make your lighting project work is adding devices to the newly created zones.
Go back to chapter 3 Commissioning on-site to continue reading about adding devices and the following steps.

5. Troubleshooting & Support

Send diagnostic report

In the event of any unexpected behaviour when commissioning devices, you can send the application 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.

Contact Information

Support:	**info@bluemesh.ca**
For more information please visit:	**www.bluemesh.ca**