# **Locus User Documentation**



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### **LOCUS WEB Application**

#### **User Manual**

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# **Table of Contents**

1. Introduction	6
Welcome to the LOCUS Application Guide	6
What makes LOCUS special?	6
2. Acronyms and Glossary	6
3. Product Overview	8
4. Key Features	8
5. Initial Account Setup	9
Additional login options	12
6. Features & Functionalities	12
6.1 Home page	12
Overview	12
6.1.1 Floor plans	14
Overview	14
Key Features and Functions	15
List View	15
Detailed View	16
6.1.2 Add New Floor Plan	17
6.1.3 Edit Floor Plan	19
6.1.4 Delete Floor Plan	20
6.1.5 Floor plan "Assets"	21
Overview	21
Key Features and Functions	22
List View	22
Detailed View	22
6.1.6 Floor plan "Geofences"	24
Overview	24
Key Features and Functions	24
List View	24
6.1.7 Add New Floor Plan Geofence	26
6.1.8 Edit Floor Plan Geofence	27
6.1.9 Delete Floor Plan Geofence	28
6.1.10 Floor Plan "Beacons"	29
Overview	29
Key Features and Functions	29

List View	29
Column Configuration (Table Preferences):	29
Map View	30
Map Controls:	30
Detailed View	30
6.2 Assets	31
Overview	31
Key Features and Functions	32
List View (Main Table)	32
6.2.1 Add New Asset	34
6.2.2 Edit Asset	36
Modes:	36
6.2.3 Delete Asset	38
Detailed View Modals	39
6.2.4 Asset types	40
Key Features and Functions	40
6.2.4.1 Add asset type	42
6.3 Devices	42
Overview	42
Key Features and Functions	42
List View (Main Table)	42
Detailed View	44
6.3.1 Add New Device	45
Modes:	45
6.3.2 Edit Device	47
6.3.3 Delete Device	50
6.3.4 Detailed View Modals	52
6.4 Beacons	52
Overview	52
Key Features and Functions	53
List View (Main Table)	53
Detailed View	54
6.4.1 Add New Beacon	55
Modes:	55
6.4.2 Edit Beacon	59

Modes:	59
6.4.3 Delete Beacon	60
6.4.4 Detailed view	61
Overview	61
Key Features and Functions	62
Tabs and Sections	62
Beacon Info	62
Map Interface	63
6.4.5 Add third-party beacon model (available only via API)	65
6.5 Sites	66
Overview	66
Key Features and Functions	66
List View (Main Table)	66
6.5.1 Add New Site	68
6.5.2 Edit Site	69
6.5.3 Delete Site	70
6.6 Buildings	71
Overview	71
Key Features and Functions	71
6.6.1 Add New Building	74
6.6.2 Edit Building	75
6.6.3 Delete Building	76
6.6.4 Building details screen	77
Overview	77
Key Features and Functions	77
6.7 Events	79
Overview	79
Key Features and Functions	79
6.8 Event Rules	84
Overview	84
Key Features and Functions	84
List View (Main Table)	84
6.9 Add New Event Rule	86
6.9.1 Edit Event Rule	88
Steps:	88

6.9.2 Delete Event Rule	92
7. Network Server Configuration	93
7.1 Configure Data Converter on Network Server	93
7.2 Configure Integration on Network Server	95

# 1. Introduction

# Welcome to the LOCUS Application Guide

This guide helps you get started with LOCUS — a simple yet powerful app for tracking assets indoors and outdoors in real time. Whether you're keeping an eye on equipment or managing items across locations, LOCUS makes it simple using Tektelic's IoT devices.

Here, you'll learn how to set up and work with the app's core features and elements. We'll guide you step-by-step to get your tracking system up and running smoothly.

# What makes LOCUS special?

- Track assets indoors with BLE scanning via Tektelic beacons.
- Monitor outdoor locations using GPS data from Tektelic devices.
- Pinpoint positions with WiFi location support powered by Semtech technology.
- Works with any LoRaWAN gateways and network servers for a seamless setup.
- Makes IoT tracking straightforward and accessible.

To start, visit <u>Tektelic Locus</u> and log in. Begin configuring your tracking system with precision!

# 2. Acronyms and Glossary

- **Altitude** Height of an asset relative to sea level, measured in meters.
- **Asset** An item or object user want's to track, such as equipment or inventory. In LOCUS, assets are linked to devices to monitor their location.
- **Asset ID** Unique identifier automatically generated by the system for each asset.
- **Asset Status** The current condition of an asset in LOCUS, shown as **Online** (actively tracked with real-time updates), **Offline** (no current data from the device), or **Not Active** (not linked to a device). This reflects whether the asset's position is being monitored.
- **Asset Type** A category user creates in LOCUS to label your assets. It can be anything you need to track, like a van, cart, or road sign, helping you organize and identify assets easily.
- **Battery Level** The most recent battery charge of a device or beacon (%).
- **Beacon** Device from TEKTELIC or a third-party provider that uses BLE (Bluetooth Low Energy) to send signals. Beacons help devices locate assets indoors by acting as reference points for tracking.
- **Beacon ID** Unique identifier automatically generated by the system for each beacon.
- **BLE** (**Bluetooth Low Energy**) Wireless technology used by beacons for short-range communication.
- **Beacon model** The specific type or version of a beacon used in LOCUS. For Tektelic beacons, the model is automatically pulled from the database. For third-party beacons, user will need to create and enter the model yourself.
- **Building** A structure within a Site for indoor tracking. Contains floor plans. Linked to a Site.

- **Device** A TEKTELIC IoT tracker that collects location data (via GPS, BLE, or WiFi). Devices must be assigned to an asset to display its position.
- **Device model** Specific hardware model name of a tracking device (e.g., PELICAN).
- **Event** Notification triggered by predefined conditions (e.g., low battery).
- Event ID Unique identifier automatically generated by the system for each event.
- Event Rules Custom conditions user set's in LOCUS to trigger alerts about your assets. Examples include when an asset enters or exits a geofence, or when a device's battery runs low.
- **Device EUI** 64-bit globally-unique Extended Unique Identifier (EUI-64) is assigned by the manufacturer, or the owner, of the end device.
- Floor Plan Internal layout map of a building, used for indoor tracking.
- **Home Site** Logical or primary location assigned to an asset/device by the user.
- **Geofence**: A virtual boundary user creates in LOCUS to monitor assets indoors or outdoors. The user can set it up around a specific area (like a room or a site) and link it to event rules to trigger events, such as when an asset enters or exits the zone.
- Indoor Map In LOCUS, this refers to a layout of a specific level within a building (e.g., an office floor or warehouse section). User will use indoor maps to place devices and beacons for precise indoor tracking.
- Latitude A geographic coordinate that shows an asset's north-south position on Earth. In LOCUS, it's used with GPS data from Tektelic devices to track assets outdoors.
- LoRa Long-range wireless communication technology used by tracking devices
- **Longitude** A geographic coordinate that shows an asset's east-west position on Earth. Paired with longitude in LOCUS, it pinpoints outdoor asset locations using GPS.
- MAC Address 12-character unique network identifier for beacon devices.
- **Outdoor Map** Global map showing the planet, focused on a specific Site. Tracks devices moving between Sites using GPS or WiFi.
- **PSR** (**Packet Success Rate**) Percentage of successfully received data packets from a device within one hour.
- **RSSI** (**Received Signal Strength Indicator**): Signal strength received from devices or beacons, measured in dBm.
- **SNR** (**Signal-to-Noise Ratio**) Measurement of signal quality compared to background noise, expressed in decibels (dB).
- **Site** Top-level location for managing tracking. Contains buildings or outdoor areas. Devices are assigned here.
- Tag Custom labels used to categorize and organize assets.
- **Tenant** Organization or workspace within the LOCUS application.

# 3. Product Overview

LOCUS by TEKTELIC is your go-to app for real-time indoor and outdoor asset tracking. It's simple, smart, and gives you full control over your stuff—whether it's equipment in a warehouse, tools in an office, or shipments on the move.

Using TEKTELIC's IoT devices, LOCUS tracks assets with BLE beacons for indoor spaces and GPS/WiFi for outdoor areas. It works with all LoRaWAN Gateways and Network Servers, so user is covered no matter your setup. User creates Sites (your main locations), Buildings, and Floor Plans, then add Devices and Assets to a Home Site. Assets can roam between Sites, and you'll see it all on a global Outdoor Map. Set up Geofences and Alarm Rules to get alerts when things move where they shouldn't.

No position shows until a Device is linked to an Asset—you have complete flexibility to configure it your way. With clear maps and easy steps, LOCUS keeps tracking simple and precise.

# 4. Key Features

LOCUS empowers user to track assets indoors and outdoors with precision and ease. Here are its standout features to streamline your asset management:

- **Real-Time Tracking**: Monitor asset locations instantly using Tektelic devices with GPS (outdoors), BLE (indoors), or WiFi, so you always know where everything is.
- **Customizable Entities**: Create and manage sites, buildings, floor plans, devices, beacons, and assets yourself, tailoring the app to your exact needs.
- **Geofence Monitoring**: Set virtual boundaries (indoor or outdoor) and get alerts when assets enter or exit them, keeping you in control.
- Event Rules: Define custom alerts for key events, like an asset moving in or out of a geofence or a device's battery running low, with options for email, SMS, or app notifications.
- **Indoor Mapping**: Use floor plans to place devices and beacons, ensuring precise tracking inside buildings like warehouses or offices.
- **Asset Management**: Assign devices to assets and categorize them with custom asset types (e.g., van, cart, or sign) for easy organization.
- **Seamless Integration**: Works with any LoRaWAN gateways and network servers, plus Semtech's WiFi location tech, for a smooth, all-in-one setup.
- **Device Insights**: Track device status (Online, Offline, Not Active) and models (e.g., KONA Micro), with details auto-loaded from the Tektelic database.
- **Location Precision**: Pinpoint assets with latitude and longitude outdoors, or BLE reference points indoors, all updated live.
- **User-Friendly Setup**: Start tracking fast—just log in, configure your system, and let LOCUS guide you step-by-step to unlock its full potential.

# 5. Initial Account Setup

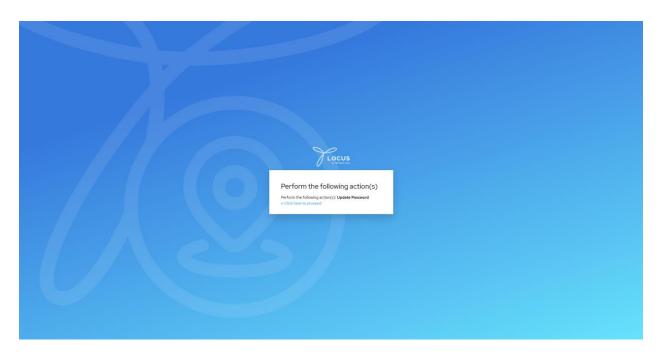
Here's how to get started with LOCUS for the first time:

#### 1. Check Your Email

After your email is added to the system, you'll receive a password confirmation message. Look for a button labeled **Link to Account Update** in the email.

#### 2. Follow the Link

Click **Link to Account Update**. You'll land on a page called "Perform the Next Actions."

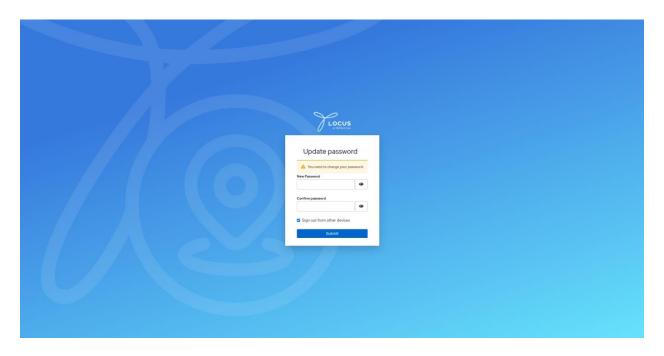


#### 3. Proceed Further

On this page, find and click the Click Here to Proceed button.

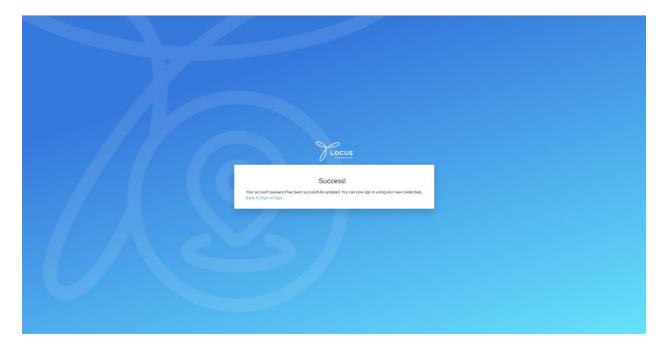
### 4. Set Your Password

You'll be taken to the "Update Password" page. Enter your new password and click **Submit**.



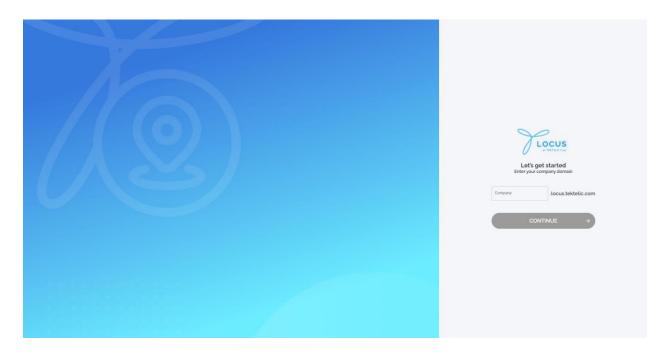
### 5. Confirm Success

After submitting, you'll see a "Success" screen. Click Back to Sign-In Page.



## 6. Add Your Organization

Next, you'll arrive at the "Let's Get Started" screen. Type your organization's name and click **Continue**.



## 7. Sign In

You'll reach the "Sign In" screen. Enter your email (login) and new password, then click **Sign In**.



# **Additional login options**

#### Single Sign-On (SSO)

Use your Google or Microsoft account for a faster, secure login - no extra credentials needed.

# 6. Features & Functionalities

## 6.1 Home page

#### Overview

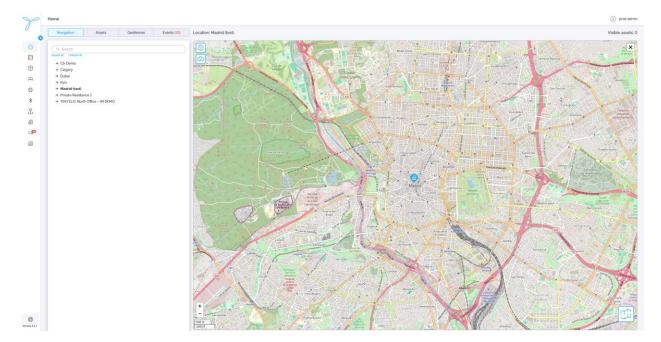
The Home page in LOCUS is your central hub for managing asset tracking. It's designed to give you full control over your sites and assets. Here's what you'll find:

- Left Panel (Top to Bottom):
  - o **Home**: Jump back to the main view anytime.
  - o Floor Plans: Access indoor layouts for precise tracking.
  - o **Assets**: View and manage all your tracked items.
  - o Users: Manage account access for your team.
  - o **Devices**: Monitor Tektelic trackers and their status.
  - o **Beacons**: View and manage all your beacon devices.
  - o Sites: Select or edit your main locations.
  - o **Buildings**: Organize structures within your sites.
  - o **Events**: See triggered events across your system.
  - o **Event Rules**: Set up custom alerts for your assets.
- Sections Under "Home" (Site-Specific):
  - o These apply only to the selected site, shown alongside the map on the right:
    - Navigation: Displays a hierarchy tree (Sites > Buildings > Floor Plans) to navigate your setup.
    - **Assets**: Shows outdoor assets currently visible on the map.
    - **Geofences**: Lists all geofences added to the selected site.
    - Events: Displays all triggered events within the chosen site.

### • Interactive Map:

- o Shows outdoor locations with real-time updates, tied to the selected site.
- o Visibility Preferences: Toggle the display of assets and geofences on or off.
- **Export Button**: Capture a screenshot of the map for your records.
- o Full Screen Mode: Expand the map for a bigger view.
- o **Map Type**: Switch between standard or satellite views.
- o **Zoom In/Zoom Out**: Adjust the map scale with easy buttons.

From here, you can explore your tracking system, tweak settings, and keep everything organized.



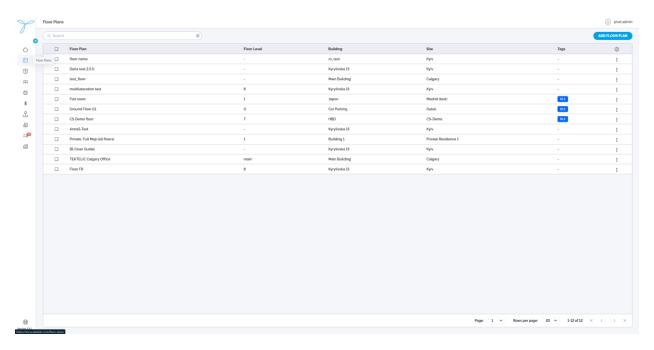
# **6.1.1 Floor plans**

### Overview

**Purpose**: The Floor Plans page lets you manage indoor layouts for precise asset tracking within buildings. You can add, edit, or delete floor plans to organize your tracking setup.

**Access**: Reach this page by selecting **Floor Plans** from the left navigation panel on the Home page.

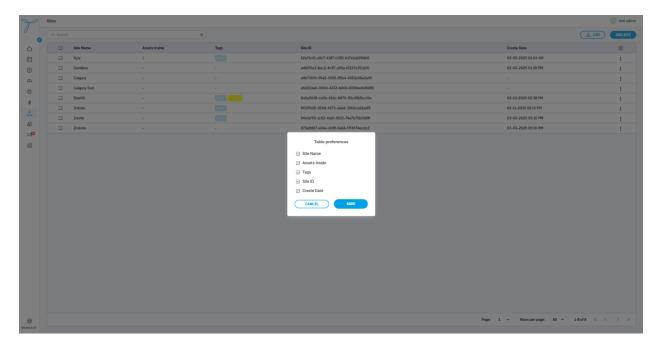
**Intended Users**: Admins and users with permissions to manage sites and buildings can access and use this page.



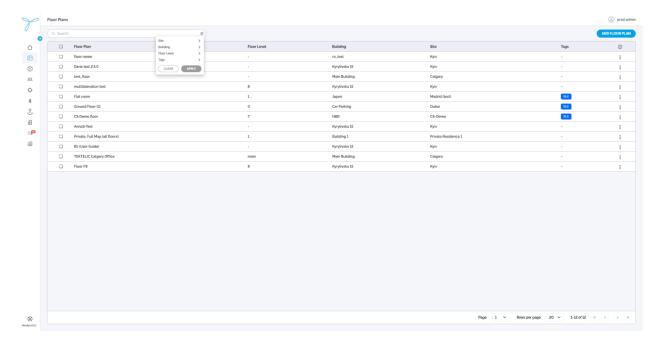
## **Key Features and Functions**

### **List View**

- The table displays all floor plans you have access to, with default columns: Floor Plan, Floor Level, Building, Home Site, and Tags.
- Column Configuration: Click the gear icon to open Table Preferences. You can select which columns to show or hide from available options (e.g., Floor Plan, Floor Level, Tags). Columns can be rearranged by dragging, hidden by deselecting, but resizing is not supported.



• **Search, Filter, Sort**: Use the search bar to find floor plans by name, apply filters (e.g., by Home Site or Building) via the filter icon, and sort columns like Floor Level in ascending or descending order.

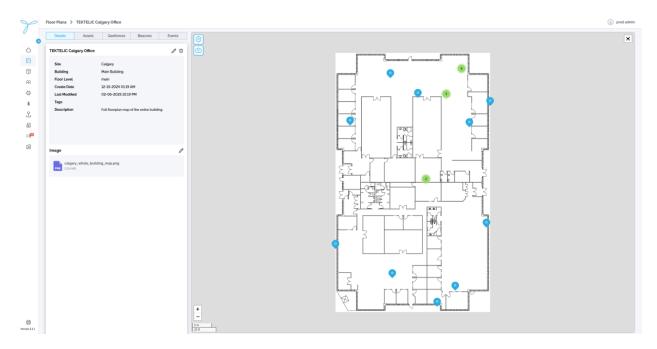


- Actions (Based on Permissions):
  - o Admins: Add, edit, or delete floor plans.
  - Standard Users: View floor plans; edit or delete if granted explicit permissions.

#### **Detailed View**

- Open the detailed view by clicking a floor plan in the table (e.g., "South-West Wing").
  - o The detailed view shows the floor plan's details:
    - **Site**: The associated site (e.g., Calgary Test).
    - **Building**: The building tied to the floor plan (e.g., TEKTELIC office).
    - **Floor Level**: The level of the floor (e.g., main).
    - Create Date: When the floor plan was added (e.g., 12-19-2024 01:19 AM).
    - Last Modified: The last update timestamp (e.g., 02-06-2025 10:19 PM).
    - Tags: Assigned tags for organization (e.g., grey, green, navy).
    - **Description**: A brief note about the floor plan (e.g., "Full floorplan map of the entire building").
    - **Image**: The uploaded map file details (e.g., "calgary\_whole\_building\_map.png", 0.34 MB).
    - **Map View**: Displays the floor plan layout with placed beacons (marked as green or blue dots) for indoor tracking.
  - o Tabs (Sections):
    - **Details**: Shows the floor plan's core information (as listed above).
    - Assets: Lists assets assigned to this floor plan, showing their current positions if devices are linked.

- **Geofences**: Displays geofences defined within this floor plan, including their boundaries and associated rules.
- Beacons: Shows all beacons placed on the map, with options to adjust their positions or add new ones.
- **Events**: Provides a log of events triggered on this floor plan (e.g., asset entering a geofence), with timestamps and details.
- **Visibility Preferences**: Access this option to toggle the display of assets and geofences on the map view (e.g., show only beacons or hide all overlays).
- Actions (Based on Permissions):
  - Admins: Edit or delete the floor plan, place or adjust beacons, manage geofences, and view/edit assets or events.
  - Standard Users: View details; edit, delete, adjust beacons, or manage geofences/assets/events if permitted.



## 6.1.2 Add New Floor Plan

**Conditions**: You need admin permissions or explicit rights to add floor plans. A site and building must already exist in LOCUS.

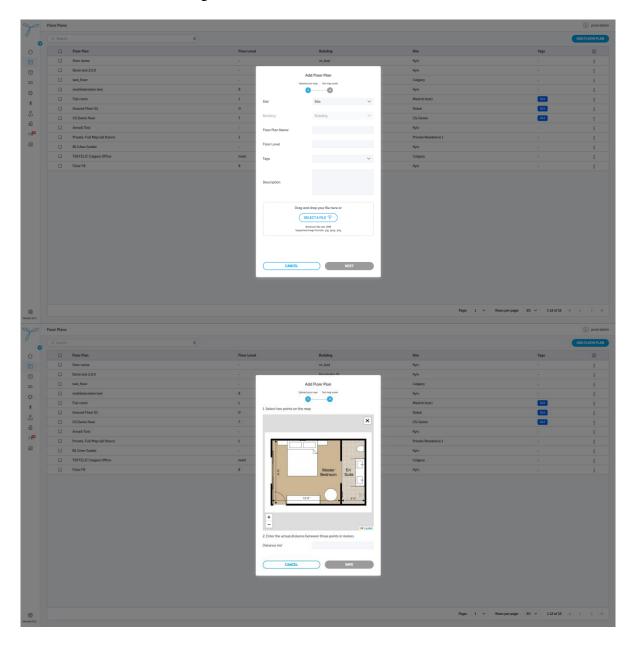
#### **Steps**:

- 1. From the Floor Plans page, click **Add Floor Plan**.
- 2. Fill in the required fields and upload a map file.
- 3. Click **Next** to proceed to map setup (Step 2).
- 4. Adjust the map scale as needed and confirm.
- 5. Click **Save** to create the floor plan.

#### Fields:

- **Site** (Required): Select the site (e.g., Kyiv).
- **Building** (Required): Choose the building within the site (e.g., Building2).
- Floor Plan Name (Required): Enter a unique name (e.g., "South-West Wing").
- **Floor Level** (Optional): Specify the level (e.g., "1").
- Tags (Optional): Add tags for organization (e.g., "red", "green").
- **Description** (Optional): Include a brief note about the floor plan.
- **Map File** (Required): Upload an image file (supported formats: jpg, png; max size: 2MB).

**Expectations**: The new floor plan is now available in the list and can be used to place devices and beacons for indoor tracking.



### 6.1.3 Edit Floor Plan

**Conditions**: You need admin permissions or explicit rights to edit floor plans. The floor plan must already exist.

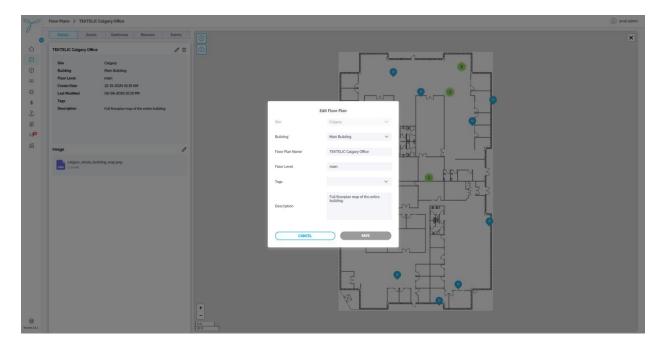
#### **Steps**:

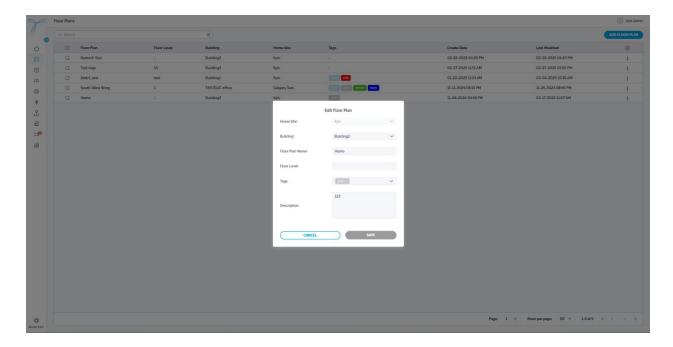
- 1. From the Floor Plans page, click a floor plan in the table (e.g., "Calgary\_test").
- 2. In the detailed view, select **Edit Floor Plan**.
- 3. Update the fields as needed.
- 4. Click **Save** to confirm changes.

#### Fields:

- **Site**: Cannot be edited; tied to the original selection.
- **Building**: Cannot be edited; tied to the original site.
- Floor Plan Name (Editable): Change the name (must remain unique).
- **Floor Level** (Editable): Update the level (e.g., from "1" to "2").
- **Tags** (Editable): Add or remove tags.
- **Description** (Editable): Modify the description.
- Map File: Can be edited in the Floor plan's detailed view. Section "Image".

**Expectations**: The updated floor plan reflects your changes in the list and can continue to be used for indoor tracking

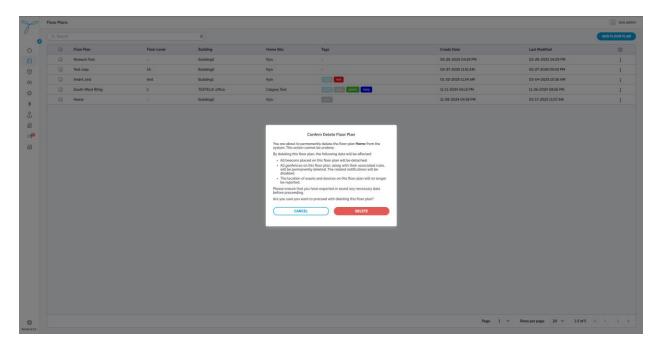


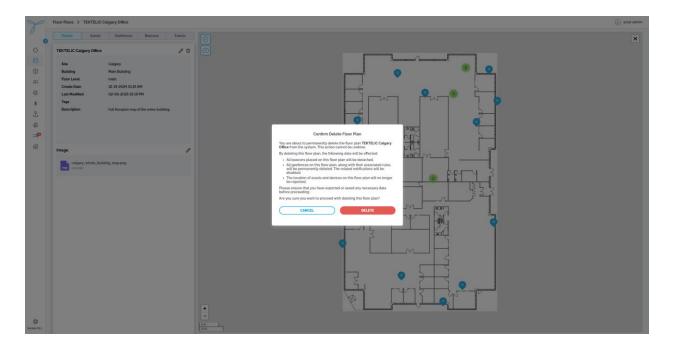


# 6.1.4 Delete Floor Plan

**Conditions**: You need admin permissions or explicit rights to delete floor plans. The floor plan must not have active devices or beacons assigned to it.

**Consequences**: Deleting a floor plan removes its layout and any associated settings. This may affect indoor tracking if devices or beacons were linked to it.





# 6.1.5 Floor plan "Assets"

### Overview

**Purpose**: The Floor Plan Assets page displays assets that have determined their position on the selected floor plan, allowing you to monitor their locations indoors.

**Access**: Reach this page by selecting the **Assets** tab in the detailed view of a floor plan from the Floor Plans page.

**Intended Users**: Admins and users with permissions to view or manage assets and floor plans can access and use this page.

#### **Key Features and Functions**

#### **List View**

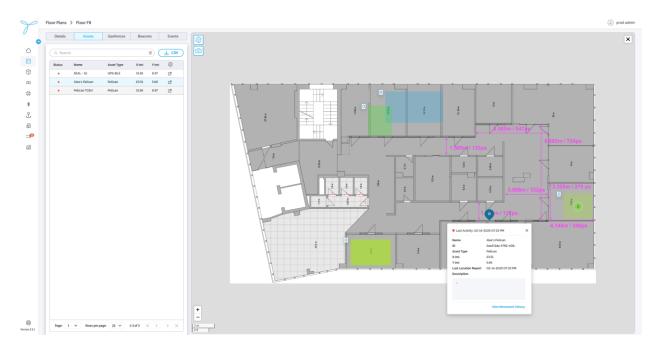
- The table displays assets that have determined their position on the selected floor plan, with default columns: Status, Name, Asset Type, X(m), and Y(m).
- Column Configuration: Click the gear icon to open Table Preferences. You can select which columns to show or hide from available options (e.g., Status, Name, Asset Type, X(m), Y(m)). Columns can be rearranged by dragging, hidden by deselecting, but resizing is not supported.
- Search and Sort: Use the search bar to find assets by name and sort columns like X(m) or Y(m) in ascending or descending order. Filtering is not available.
- Actions (Based on Permissions):
  - o Admins: View asset details; edit asset assignments if permitted.
  - Standard Users: View asset details; edit assignments if granted explicit permissions.



#### **Detailed View**

- Open the detailed view by clicking an asset on the map (e.g., the marker labeled "Alex's Pelican").
- The detailed view opens a modal with the asset's details:
  - o **Last Activity**: The last recorded activity timestamp (e.g., 02-14-2025 03:33 PM).
  - o **ID**: A unique identifier (e.g., 2aa211d5-5784-40b8...).
  - o **Asset Type**: The type of asset (e.g., Pelican).
  - $\circ$  **X(m)**: The X-coordinate on the floor plan (e.g., 23.51).
  - o **Y(m)**: The Y-coordinate on the floor plan (e.g., 6.67).
  - Last Location Report: The timestamp of the last position update (e.g., 02-14-2025 03:33 PM).

- **Description**: A brief note about the asset (optional; e.g., none in this case).
- **Map View**: Displays the asset's position on the floor plan map (marked as a dot), along with geofences and beacons.
- Map Controls:
  - Visibility Preferences: Toggle the display of geofences and assets on the map.
  - o **Export**: Capture a screenshot of the map.
- Additional Options:
  - o View Movement History: Access the asset's historical location data.
- Actions (Based on Permissions):
  - o Admins: View movement history; edit asset details or assignments if permitted.
  - Standard Users: View details; edit or view history if permitted.



#### Fields:

- Last Activity: Cannot be edited; updates automatically.
- **ID**: Cannot be edited; system-generated.
- Asset Type: Cannot be edited on this page; must be changed in the Assets section.
- **X(m)**: Cannot be edited; determined by the device's position.
- Y(m): Cannot be edited; determined by the device's position.
- Last Location Report: Cannot be edited; updates automatically.
- **Description** (Editable): Add or modify the description (must be edited in the Assets section).

# 6.1.6 Floor plan "Geofences"

#### Overview

**Purpose**: The Floor Plan Geofences page allows you to define and manage geofence boundaries within a selected floor plan for monitoring asset movements indoors.

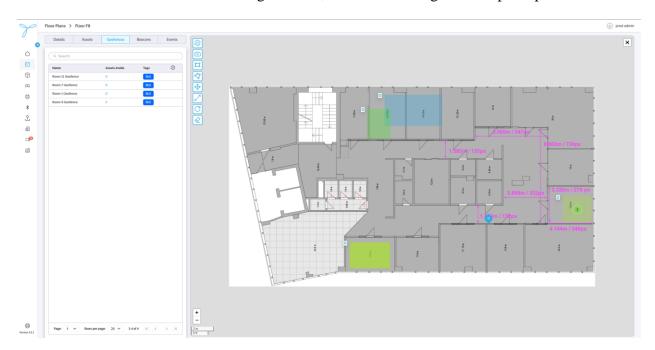
**Access**: Reach this page by selecting the **Geofences** tab in the detailed view of a floor plan from the Floor Plans page.

**Intended Users**: Admins and users with permissions to manage geofences and floor plans can access and use this page.

#### **Key Features and Functions**

#### **List View**

- The table displays all geofences associated with the selected floor plan, with default columns: Name, Assets Inside, and Tags.
- Column Configuration: Click the gear icon to open Table Preferences. You can select which columns to show or hide from available options (e.g., Name, Assets Inside, Tags). Columns can be rearranged by dragging, hidden by deselecting, but resizing is not supported.
- **Search**: Use the search bar to find geofences by name and sort columns like Assets Inside in ascending or descending order. Filtering is not available.
- Actions (Based on Permissions):
  - o Admins: Add, edit, or delete geofences.
  - o Standard Users: View geofences; edit or delete if granted explicit permissions.



#### **Detailed View**

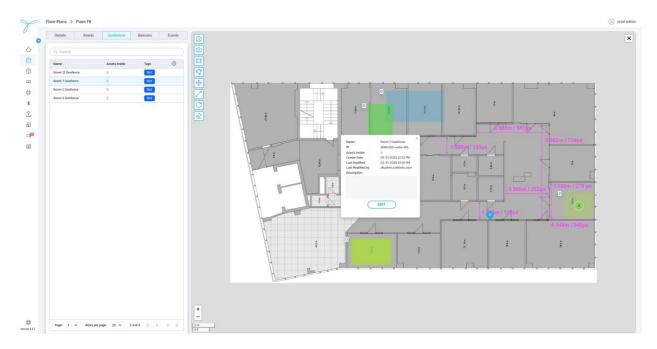
- Open the detailed view by clicking a geofence on the map (e.g., the green zone labeled "Room 9 Geofence").
- The detailed view opens a modal with the geofence's details:
  - o **ID**: A unique identifier (e.g., 4886B10-6EF4-4E8B).
  - o **Assets Inside**: The number of assets currently within the geofence (e.g., "2").
  - o **Create Date**: When the geofence was added (e.g., 02-21-2025 12:10 PM).
  - o **Last Modified**: The last update timestamp (e.g., 02-21-2025 12:10 PM).
  - Last Modified By: The user who last edited the geofence (e.g., atlas.user@tektelic.com).
  - o Name (Editable): The geofence's identifier (e.g., "Room 9 Geofence").
  - **Description** (Editable): A brief note about the geofence (e.g., add a note like "Monitors conference room").
  - o Color and Transparency (Editable): Adjust the geofence's color (e.g., green) and transparency for visibility on the map.
  - o **Map View**: Displays the geofence boundaries (e.g., green or blue zones) on the floor plan map, with dimensions and positions.

#### • Map Controls:

- o **Visibility Preferences**: Toggle the display of geofences and assets on the map.
- o **Export**: Capture a screenshot of the map.
- o **Draw Rectangle**: Create a new rectangular geofence.
- o **Draw Polygon**: Create a new polygon-shaped geofence.
- o **Drag**: Move an existing geofence to a new position on the map.
- o **Resize**: Adjust the size of a geofence.
- o **Rotate**: Rotate a geofence on the map.
- o **Delete**: Remove a selected geofence from the map.

#### • Actions (Based on Permissions):

- o Admins: Edit geofence details (name, description, color, transparency), adjust its shape or position, or delete it.
- o Standard Users: View details; edit or delete if permitted.



## 6.1.7 Add New Floor Plan Geofence

**Conditions**: You need admin permissions or explicit rights to add geofences. The floor plan must already exist, and a map file must be uploaded.

#### Steps:

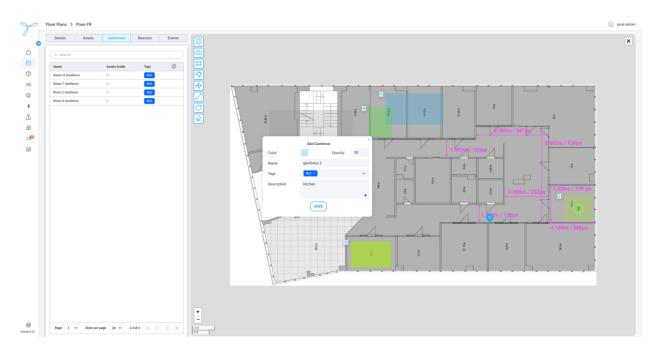
- 1. From the Floor Plan Geofences page, select the map view.
- 2. Click **Draw Rectangle** or **Draw Polygon** to create a new geofence shape.
- 3. Define the geofence by clicking and dragging to set its boundaries.
- 4. Enter a name, optional description, tags, color, and transparency in the prompted fields.
- 5. Click **Save** to create the geofence.

#### Fields:

- Name (Required): Enter a unique name (e.g., "Room 9 Geofence").
- **Assets Inside** (Auto-filled): Displays the number of assets within the geofence after creation.
- Create Date (Auto-filled): Set automatically upon creation.
- Last Modified (Auto-filled): Updated automatically when edited.
- Last Modified By (Auto-filled): Records the user who made the change.
- **Description** (Optional): Add a note (e.g., "Monitors conference room").
- **Tags** (Optional): Add tags for organization (e.g., "BLE").

- Color and Transparency (Optional): Choose the geofence's color (e.g., green) and transparency.
- **Shape and Position** (Required): Define the geofence area using Draw Rectangle or Draw Polygon tools.

**Expectations**: The new geofence is added to the list and can be used to trigger event rules when assets enter or exit.



# 6.1.8 Edit Floor Plan Geofence

**Conditions**: You need admin permissions or explicit rights to edit geofences. The geofence must already exist.

#### Steps:

- 1. From the Floor Plan Geofences page, click a geofence on the map (e.g., "Room 9 Geofence").
- 2. In the detailed view modal, click **Edit**.
- 3. Update the name, description, color, or transparency as needed.
- 4. Use **Drag**, **Resize**, or **Rotate** to adjust the geofence's position or shape on the map.
- 5. Click **Save** to confirm changes.

#### Fields:

- **ID**: Cannot be edited; system-generated.
- **Assets Inside**: Cannot be edited; updates automatically based on asset positions.
- Create Date: Cannot be edited; set at creation.
- Last Modified: Cannot be edited; updates automatically.

- Last Modified By: Cannot be edited; updates automatically.
- Name (Editable): Change the name (must remain unique).
- **Description** (Editable): Add or modify the description.
- **Tags** (Editable): Add or remove tags.
- Color and Transparency (Editable): Adjust the geofence's appearance.
- **Shape and Position**: Editable using Drag, Resize, or Rotate; cannot change the type (rectangle/polygon) once set.

**Expectations**: The updated geofence reflects your changes in the list and continues to monitor assets.

### **6.1.9 Delete Floor Plan Geofence**

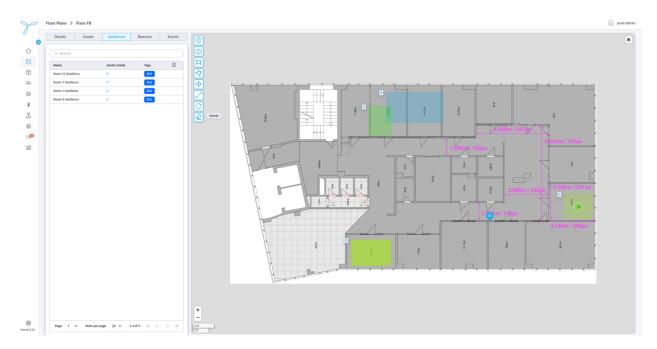
**Conditions**: You need admin permissions or explicit rights to delete geofences. The geofence must not be linked to active event rules.

**Consequences**: Deleting a geofence removes its boundaries and stops monitoring assets within it. This may affect associated event rules or reports.

#### Steps:

- 1. From the Floor Plan Geofences page, click the **Delete** button (eraser icon) on the map controls.
- 2. Click the geofence you want to delete on the map (e.g., "Room 9 Geofence").
- 3. Click the **Delete** button again to confirm the deletion.

**Expectations**: The geofence is permanently removed from the list and cannot be restored. You'll need to recreate it if needed.



### 6.1.10 Floor Plan "Beacons"

#### Overview

**Purpose**: The Floor Plan Beacons page allows you to manage and monitor beacons placed on a selected floor plan, enabling precise indoor positioning and asset tracking within buildings. Beacons are critical for determining asset locations in indoor environments by communicating with devices paired with assets.

**Access**: Reach this page by selecting the Beacons tab in the detailed view of a floor plan from the Floor Plans page.

**Intended Users**: Admins and users with permissions to manage beacons and floor plans can access and use this page.

#### **Key Features and Functions**

#### **List View**

The table displays all beacons associated with the selected floor plan, with default columns: Name, MAC Address, Localization Mode, X (m), Y (m).

- Name: The identifier of the beacon (e.g., "AC23F58ECEB").
- MAC Address: The unique MAC address of the beacon (e.g., "AC:23:F5:8E:CE:B").
- **Localization Mode**: The mode in which the beacon operates (e.g., "Nearest" or "Regular").
- **X** (**m**): The X-coordinate of the beacon on the floor plan (e.g., "12.30").
- **Y** (**m**): The Y-coordinate of the beacon on the floor plan (e.g., "6.53").

#### **Column Configuration (Table Preferences):**

- Click the gear icon to open the Table Preferences modal.
- Select which columns to show or hide from available options (e.g., Name, MAC Address, Localization Mode, X (m), Y (m)).
- Columns can be rearranged by dragging, hidden by deselecting, but resizing is not supported.
- Click **Save** to apply changes; **Cancel** to discard.

**Search**: Use the search bar to find beacons by name or MAC address. Filtering and sorting are not available in this view.

#### **Actions (Based on Permissions):**

- **Admins**: Add, edit, or delete beacons; adjust their positions on the map.
- **Standard Users**: View beacons; edit, delete, or adjust positions if granted explicit permissions.

#### Map View

The map view displays the floor plan layout with placed beacons, marked as colored dots (e.g., purple for "Nearest", blue for "Regular", grey for "Unassigned"). The map includes room dimensions (e.g., "3.328m / 478 px") and labeled areas (e.g., "1", "2").

- Beacons are shown with their coordinates (e.g., "X: 123 Y: 65" for a beacon labeled "AC23F58ECEB").
- Colored geofences (e.g., green, blue) are visible if toggled on via Visibility Preferences.

#### **Map Controls:**

- **Zoom In/Out**: Use the "+" and "-" controls to adjust the map scale.
- **Export**: Capture a screenshot of the map using the camera icon.
- **Visibility Preferences**: Toggle the display of geofences, assets, and beacons on the map.
- **Drag**: Move a beacon to a new position on the map by clicking and dragging.

#### **Detailed View**

Open the detailed view by clicking a beacon on the map (e.g., the purple dot labeled "X: 123 Y: 65").

The detailed view opens a modal with the beacon's details:

- **ID**: A unique identifier (e.g., "647FDA000001F136").
- Name: The beacon's identifier (e.g., "AC23F58ECEB").
- MAC Address: The beacon's MAC address (e.g., "AC:23:F5:8E:CE:B").
- Localization Mode: The current mode (e.g., "Nearest").
- **Discovery Timeout (min)**: The timeout setting (e.g., "120").
- **X** (**m**): The X-coordinate on the floor plan (e.g., "123").
- **Y** (**m**): The Y-coordinate on the floor plan (e.g., "65").
- Create Date: When the beacon was added (e.g., "02-21-2025 12:10 PM").
- Last Modified: The last update timestamp (e.g., "02-21-2025 12:10 PM").
- Last Modified By: The user who last edited the beacon (e.g., "admin@tektelic.com").
- **Description**: A brief note about the beacon (optional, e.g., "Placed in conference room").

#### **Actions (Based on Permissions):**

- **Admins**: Edit beacon details (name, localization mode, discovery timeout, description), adjust its position, or delete it.
- **Standard Users**: View details; edit or delete if permitted.



# 6.2 Assets

### Overview

**Purpose**: The Assets page allows you to manage and monitor all assets within the system, including their types, locations (indoor and outdoor), device associations, and activity status.

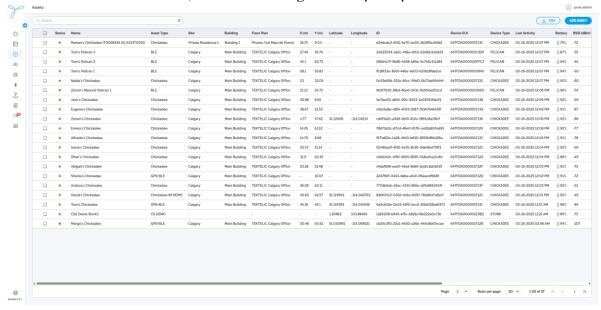
Access: Access this page via the main navigation menu under the Assets section.

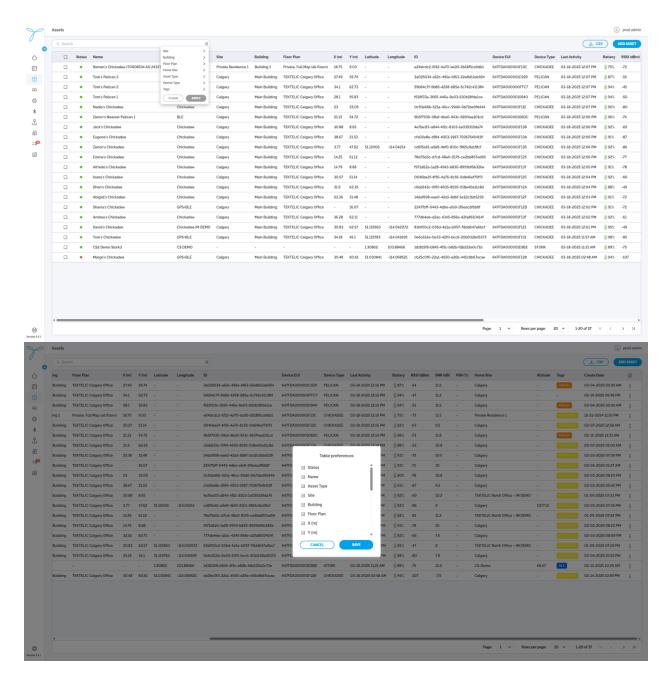
**Intended Users**: Admins and users with permissions to view or manage assets can access and use this page.

#### **Key Features and Functions**

#### **List View (Main Table)**

- The table displays all assets with the following default columns: Status, Name, Asset Type, Site, Building, Floor Plan, X(m), Y(m), Latitude, Longitude, ID, Device EUI, Device Type, Last Activity, Battery, RSSI/dBm, PSR (dB), Home Site, Altitude, Tags, Create Date.
- Column Configuration (Table Preferences):
  - o Click the gear icon to open the **Table Preferences** modal.
  - Select which columns to show or hide (e.g., Status, Name, Asset Type, Site, Building, etc.).
  - Columns can be rearranged by dragging, hidden by deselecting, but resizing is not supported.
  - o Click **Save** to apply changes; **Cancel** to discard.
- **Search and Sort**: Use the search bar to find assets by name or other criteria (e.g., ID, Device EUI) and sort columns like Last Activity or Battery in ascending or descending order. Filtering by Site, Building, or Floor Plan is available via the filter dropdowns.
- **Export Data**: Export the table to a .csv file by clicking the **CSV** button, including data matching current search and filter criteria.
- Actions (Based on Permissions):
  - o **Edit**: Click the pencil icon next to an asset in the table to open the **Edit Asset** modal and modify details (see below).
  - **Delete**: Click the trash icon next to an asset in the table to open the **Confirm Delete Asset** modal and remove the asset (see below).
  - o Admins: Add, edit, or delete assets; assign devices.
- o Standard Users: View assets; edit or delete if granted explicit permissions.





#### **Detailed View**

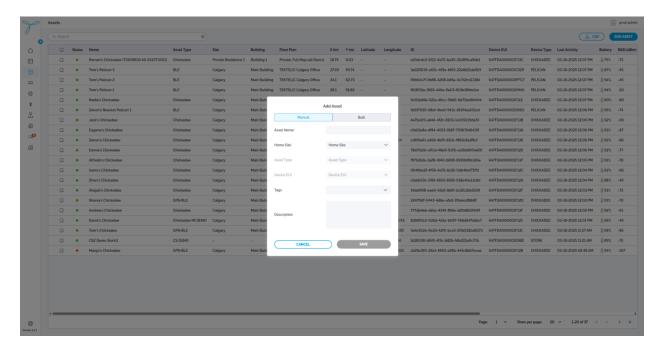
- Open the detailed view by clicking an asset in the table (e.g., "Zenon's Chickadee" or "Tom's Pelican 3").
- The detailed view provides tabs for **Details**, **History**, and **Events**, with modal windows for additional actions.

### 6.2.1 Add New Asset

**Conditions**: You need admin permissions or explicit rights to add assets.

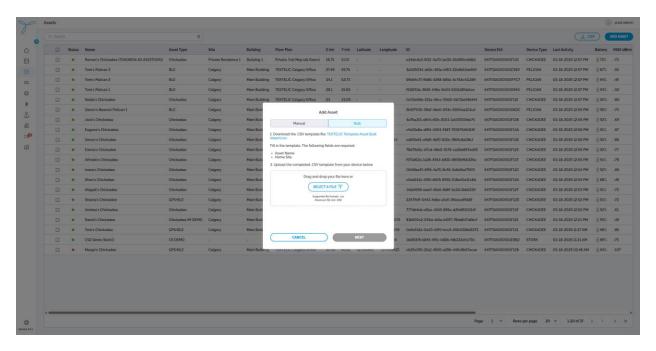
#### Modes:

- Manual:
  - o Steps:
    - 1. Click the **Add Asset** button and select **Manual**.
    - 2. Enter the following fields in the modal:
      - **Asset Name** (Required): Unique name (e.g., "New Asset").
      - **Home Site** (Required): Select from dropdown (e.g., Calgary).
      - **Asset Type** (Required): Select from dropdown (e.g., Chickadee, Pelican).
      - **Device EUI** (Required): Enter or select a device identifier.
      - **Tags** (Optional): Add tags for organization.
      - **Description** (Optional): Add a note.
    - 3. Click **Save** to create the asset.
  - **Expectations**: The new asset appears in the list and can be tracked if associated with a device.



- Bulk:
  - o Steps:
    - 1. Click the **Add Asset** button and select **Bulk**.
    - 2. Download the CSV template file by clicking **Download the CSV** template file.
    - 3. Fill in the required fields (Asset Name, Home Site, Asset Type, Device EUI) in the template.

- 4. Upload the completed CSV file by dragging and dropping or using the **Select File** button.
- 5. Click **Next** to process the upload.
- 6. Review and confirm the data, then click **Save**.
- Expectations: Multiple assets are added based on the uploaded CSV, appearing in the list for tracking.

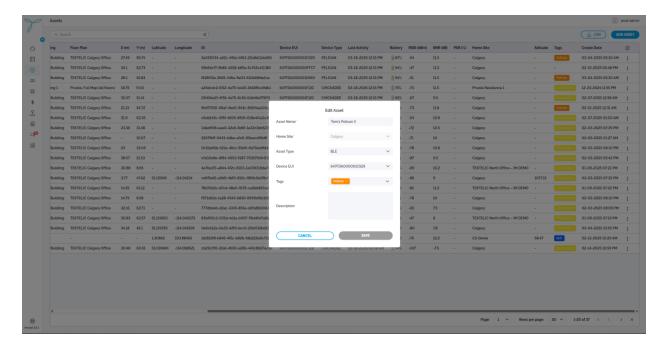


## 6.2.2 Edit Asset

**Conditions**: You need admin permissions or explicit rights to edit assets. The asset must already exist.

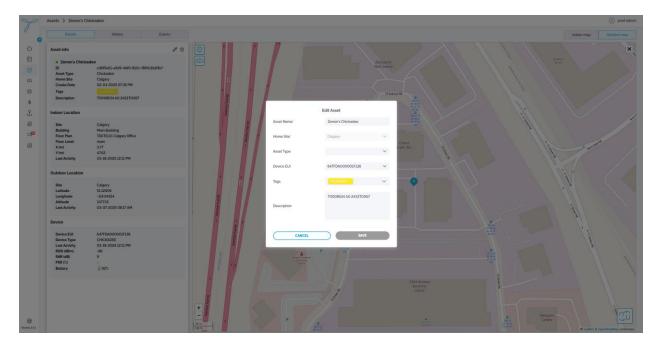
#### **Modes:**

- From Main Table:
  - o Steps:
    - 1. Click the pencil icon next to an asset (e.g., "Tom's Pelican 3") in the table.
    - 2. In the **Edit Asset** modal, modify the following fields:
      - **Asset Name** (Editable): Update the name.
      - **Home Site** (Editable): Change the site.
      - **Asset Type** (Editable): Update the type.
      - **Device EUI** (Editable): Reassign a device.
      - Tags (Editable): Add or remove tags.
      - **Description** (Editable): Update the note.
    - 3. Click **Save** to confirm changes; **Cancel** to discard.
  - Expectations: The updated asset reflects changes in the list and continues to be monitored.



# • From Detailed View:

- o Steps:
  - 1. Open the detailed view of an asset (e.g., "Zenon's Chickadee").
  - 2. Click the pencil icon (if available) or edit fields directly in the **Details** tab.
  - 3. Update the same fields as above and save via the respective section.
- Expectations: Same as above.



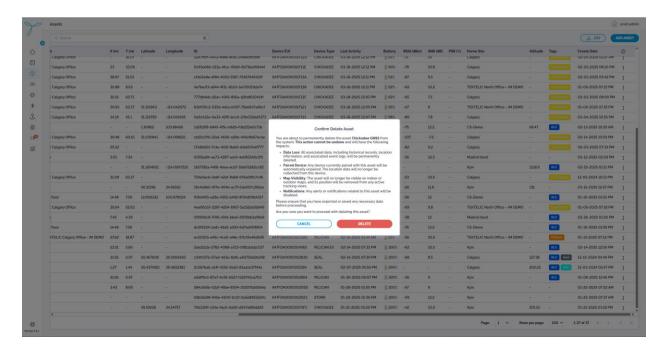
# **6.2.3 Delete Asset**

**Conditions**: You need admin permissions or explicit rights to delete assets. The asset must not be linked to active event rules.

**Consequences**: Deleting an asset removes it from the system and stops its tracking. This affects associated data, including historical records, location logs, paired devices, event logs, geofence notifications, and map visibility.

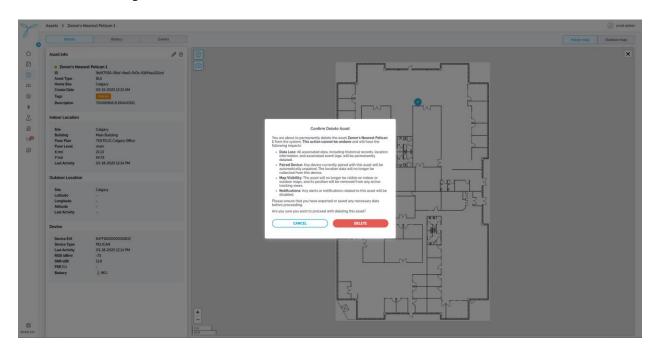
### **Modes**:

- From Main Table:
  - o Steps:
    - 1. Click the trash icon next to an asset (e.g., "Zenon's Nearest Pelican 1") in the table.
    - 2. In the **Confirm Delete Asset** modal, review the warning about permanent deletion and its impacts.
    - 3. Click **Delete** to confirm; **Cancel** to abort.
  - Expectations: The asset is permanently removed from the list and cannot be restored.



### • From Detailed View:

- Steps:
  - 1. Open the detailed view of an asset (e.g., "Zenon's Nearest Pelican 1").
  - 2. Click the trash icon (if available) to open the **Confirm Delete Asset** modal.
  - 3. Review the warning and click **Delete** to confirm; **Cancel** to abort.
- Expectations: Same as above.



### **Detailed View Modals**

### • Details Tab:

- o Fields:
  - **Asset Info**: Name, Home Site, Create Date, Tags, Description.
  - **Indoor Location**: Site, Building, Floor Plan, X(m), Y(m), Last Activity.
  - Outdoor Location: Site, Latitude, Longitude, Altitude, Last Activity.
  - Device: Device EUI, Device Type, Last Activity, RSSI (dBm), SNR (dB), Battery.
- Actions: Edit asset details (pencil icon), delete asset (trash icon), view indoor/outdoor map by switching between **Indoor Map** and **Outdoor Map** tabs, toggle asset visibility with **Visibility Preferences**.
- Expectations: Displays real-time or last-known location data on the selected map.

### • History Tab:

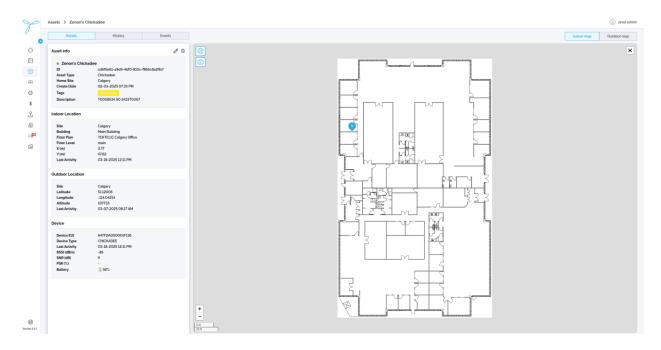
- **Fields**: Table with columns for Timestamp, X(m), Y(m), Latitude, Longitude, Altitude, Site, Building, Floor Plan.
- o **Actions**: Filter by date range (e.g., 03/17/2025 12:13 PM 03/18/2025 12:13 PM) and export to .csv.
- Expectations: Shows a historical log of the asset's positions over time.

### • Events Tab:

- Fields: Table with columns for Timestamp, Event Status, Event Type, Asset Name, Asset ID.
- o **Actions**: Filter by date range and export to .csv.
- Expectations: Displays event logs (e.g., entry/exit from geofences) associated with the asset.

### • Visibility Preferences:

- Options: Toggle Assets and Geofences on/off.
- o **Actions**: Click **Apply** to update the map view; **Cancel** to discard changes.
- o **Expectations**: Controls which elements are visible on the indoor/outdoor map.



# **6.2.4** Asset types

### Overview

**Purpose**: The Asset Types page allows users to create and manage types for assets, which can then be assigned to assets during their creation or editing. An asset type defines a category for assets, such as "Chickadee" or "Pelican," and is tied to a specific site.

**Access**: This functionality is currently available only through the backend API. In the future, it will be accessible via the main navigation menu under the Assets section, in a subsection called "Asset Types."

**Intended Users**: Admins and users with permissions to manage assets can create and manage asset types.

## **Key Features and Functions**

### **List View**

The table will display all asset types with the following default columns: Name, Site ID, Create Date.

- Name: The name of the asset type (e.g., "Chickadee beacon\_model").
- **Site ID**: The unique identifier of the site to which the asset type is tied (e.g., "ddf86946-f157-47bb-a942-ed9f358d9850").
- Create Date: The date when the asset type was created (e.g., "03-21-2025 10:00 AM").

### **Column Configuration (Table Preferences):**

- Click the gear icon to open the Table Preferences modal.
- Select which columns to show or hide (e.g., Name, Site ID, Create Date).
- Columns can be rearranged by dragging, hidden by deselecting, but resizing is not supported.
- Click **Save** to apply changes; **Cancel** to discard.

**Search and Sort**: Use the search bar to find asset types by name. Sort columns like Create Date in ascending or descending order.

**Export Data**: Export the table to a .csv file by clicking the CSV button, including all visible columns.

### **Actions (Based on Permissions):**

- **Admins**: Add, edit, or delete asset types.
- Standard Users: View asset types; edit or delete if granted explicit permissions.

#### **Detailed View**

Open the detailed view by clicking an asset type in the table (e.g., "Chickadee beacon\_model").

The detailed view provides the following fields:

- **ID**: A unique identifier for the asset type (e.g., "at123").
- Name: The name of the asset type (e.g., "Chickadee beacon\_model").
- **Site ID**: The site identifier (e.g., "ddf86946-f157-47bb-a942-ed9f358d9850").
- Create Date: When the asset type was created (e.g., "03-21-2025 10:00 AM").
- Last Modified: The last update timestamp (e.g., "03-21-2025 10:00 AM").
- Last Modified By: The user who last edited the asset type (e.g., "admin@tektelic.com").

### **Actions (Based on Permissions):**

- **Admins**: Edit or delete the asset type.
- Standard Users: View details; edit or delete if permitted.

# **6.2.4.1** Add asset type

**Conditions**: You need admin permissions or explicit rights to add beacon models. This functionality is currently available only through the backend API.

### Steps (via API):

- 6. Use an API client (e.g., Postman) to send a POST request to the endpoint for creating asset types (e.g., <a href="https://api.locus.tektelic.com/asset-types">https://api.locus.tektelic.com/asset-types</a>).
- 7. In the request body, provide the following JSON payload:

```
"name": "Chickadee beacon_model",
"siteId": "ddf86946-f157-47bb-a942-ed9f358d9850"
}
```

- 8. Set the appropriate headers (e.g., Content-Type: application/json, and include an authorization token).
- 9. Send the request and verify the response (e.g., a 201 Created status with the created asset type's details, including a generated id).

# **6.3 Devices**

#### Overview

**Purpose**: The Devices page allows you to manage and monitor all devices within the system, including their status, models, location associations, and activity metrics. Devices are typically paired with assets for tracking purposes.

Access: Access this page via the main navigation menu under the **Devices** section.

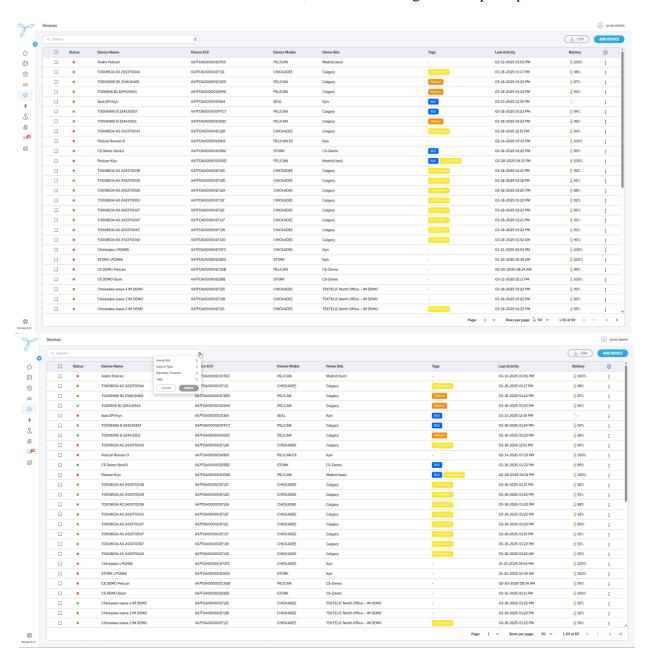
**Intended Users**: Admins and users with permissions to view or manage devices can access and use this page.

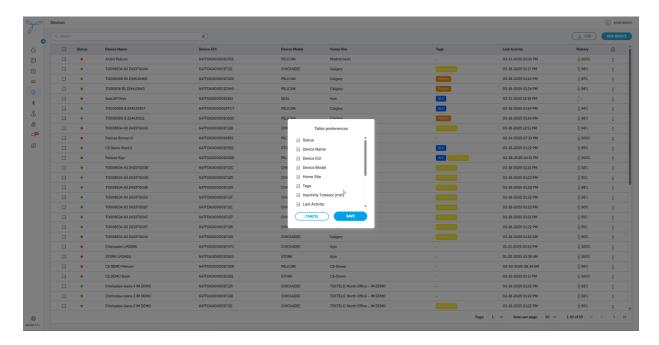
## **Key Features and Functions**

### **List View (Main Table)**

- The table displays all devices with the following default columns: Status, Device Name, Device EUI, Device Model, Home Site, Tags, Inactivity Timeout (min), Last Activity, Battery, Create Date, Asset Name, RSSI (dBm), SNR (dB), PSR (%).
- Column Configuration (Table Preferences):
  - o Click the gear icon to open the **Table Preferences** modal.
  - Select which columns to show or hide (e.g., Status, Device Name, Device EUI,
     Device Model, Home Site, Tags, Inactivity Timeout (min), Last Activity, Battery,
     Create Date, Asset Name, RSSI (dBm), SNR (dB), PSR (%)).
  - Columns can be rearranged by dragging, hidden by deselecting, but resizing is not supported.
  - o Click **Save** to apply changes; **Cancel** to discard.

- Search and Sort: Use the search bar to find devices by name, Device EUI, or other criteria, and sort columns like Last Activity or Battery in ascending or descending order. Filtering by Home Site is available via the filter dropdown (e.g., Calgary, Kyiv, Madrid (test)).
- **Export Data**: Export the table to a .csv file by clicking the **CSV** button, including data matching current search and filter criteria.
- Actions (Based on Permissions):
  - Click the More Actions (...) button next to a device in the table to open a context menu with Edit and Delete options.
  - o Admins: Add, edit, or delete devices; pair devices with assets.
  - o Standard Users: View devices; edit or delete if granted explicit permissions.





# **Detailed View**

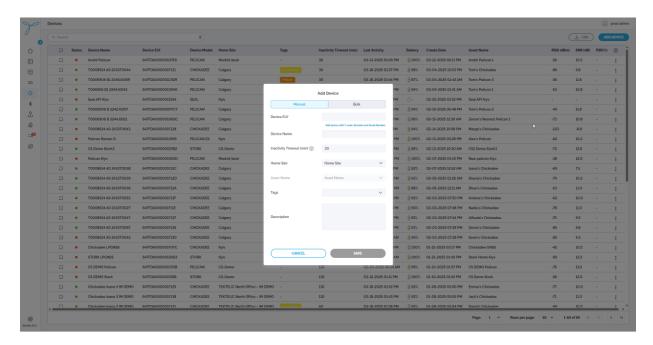
- Open the detailed view by clicking a device in the table (e.g., "TOO08534 AO 243370044").
- The detailed view provides tabs for **Details**, with information about the device and its associated asset, as well as indoor/outdoor location data.

# 6.3.1 Add New Device

**Conditions**: You need admin permissions or explicit rights to add devices.

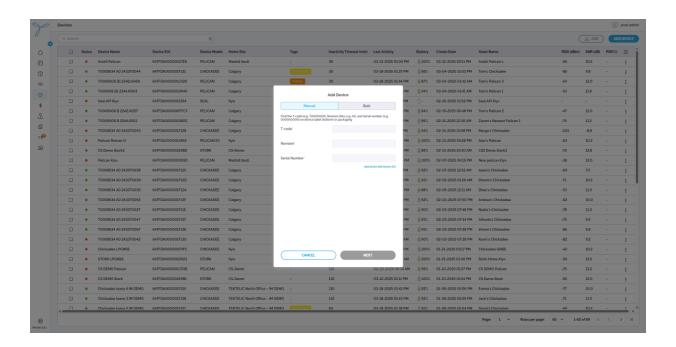
# **Modes:**

- With T-code/Revision/Serial Number:
  - o Steps:
    - 1. Click the **Add Device** button and select **Manual**.
    - 2. In the **Add Device** modal, ensure the **Manual** tab is selected.
    - 3. Enter the following fields:
      - **T-code/Revision/Serial Number** (Required): Input the device identifier (e.g., "TOO0A0D0 on device label (bottom) packaging").
      - **Inactivity Timeout (min)** (Optional): Set a timeout (default is 30 minutes).
    - 4. Click **Next** to proceed.
  - o **Expectations**: The device is added to the system and can be paired with an asset.

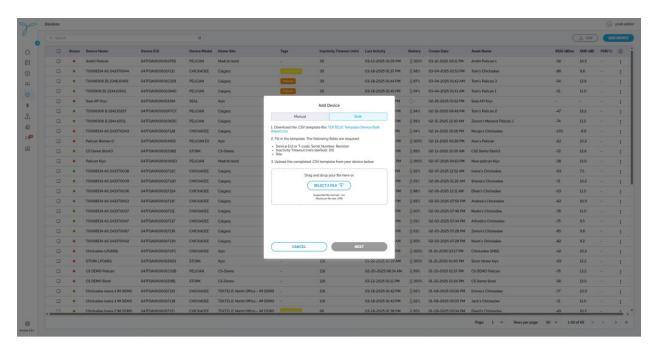


### • Via DevEUI:

- o Steps:
  - 1. Click the **Add Device** button and select **Manual**.
  - 2. In the **Add Device** modal, ensure the **Manual** tab is selected.
  - 3. Click the **Add device with DevEUI** link.
  - 4. Enter the following fields:
    - **Device EUI** (Required): Input the device's unique EUI (e.g., "647FDA000001F136").
    - **Device Name** (Optional): Assign a name to the device.
    - **Inactivity Timeout (min)** (Optional): Set a timeout (default is 30 minutes).
    - **Home Site** (Required): Select from dropdown (e.g., Calgary).
    - **Asset Name** (Optional): Select an asset to pair with the device.
    - **Tags** (Optional): Add tags for organization.
    - **Description** (Optional): Add a note.
  - 5. Click **Save** to create the device.
- o **Expectations**: The device is added and paired with the selected asset, if specified.



- Bulk:
  - Steps:
    - 1. Click the **Add Device** button and select **Bulk**.
    - 2. In the **Add Device** modal, ensure the **Bulk** tab is selected.
    - 3. Follow these steps:
      - Download the CSV template file by clicking Download the CSV template file.
      - Fill in the required fields (e.g., Device EUI, Device Name, Inactivity Timeout, Home Site, Asset Name) in the template.
      - Upload the completed CSV file by dragging and dropping or using the **Select File** button (supports .csv files, maximum size 2MB).
    - 4. Click **Next** to process the upload.
    - 5. Review and confirm the data, then click **Save**.
  - Expectations: Multiple devices are added based on the uploaded CSV, appearing in the list for tracking.



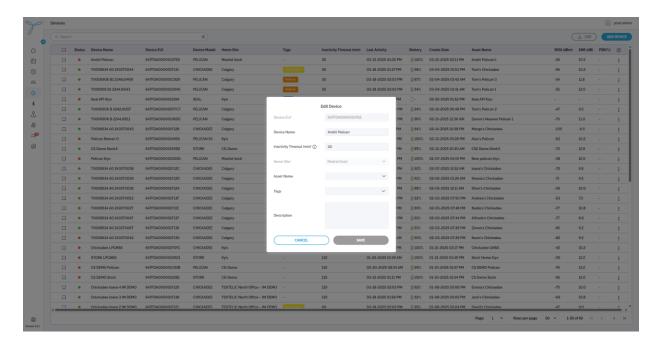
# 6.3.2 Edit Device

**Conditions**: You need admin permissions or explicit rights to edit devices. The device must already exist.

#### Modes:

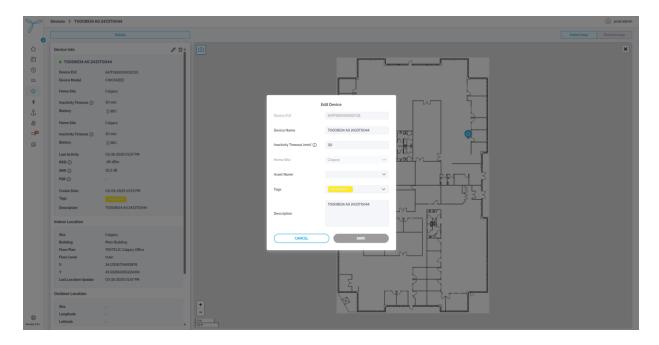
- From Main Table:
  - o Steps:
    - 1. Click the **More Actions** (...) button next to a device (e.g., "TOO08534 AO 243370044") in the table.
    - 2. Select **Edit** from the context menu to open the edit modal.
    - 3. Update the following fields:

- **Device Name** (Editable): Update the name.
- **Home Site** (Editable): Change the site.
- Inactivity Timeout (min) (Editable): Adjust the timeout.
- **Tags** (Editable): Add or remove tags.
- **Description** (Editable): Update the note.
- 4. Click **Save** to confirm changes; **Cancel** to discard.
- **Expectations**: The updated device reflects changes in the list and continues to be monitored.



# • From Detailed View:

- o Steps:
  - 1. Open the detailed view of a device (e.g., "TOO08534 AO 243370044").
  - 2. Click the pencil icon in the **Details** tab to edit fields.
  - 3. Update the same fields as above and save via the respective section.
- o **Expectations**: Same as above.



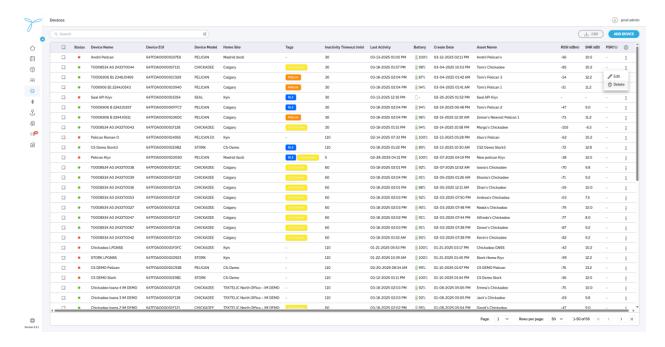
# **6.3.3** Delete Device

**Conditions**: You need admin permissions or explicit rights to delete devices. The device must not be linked to active event rules or assets.

**Consequences**: Deleting a device removes it from the system, unpairs it from any associated asset, and stops its tracking. This affects associated data, including historical records, location logs, event logs, and map visibility.

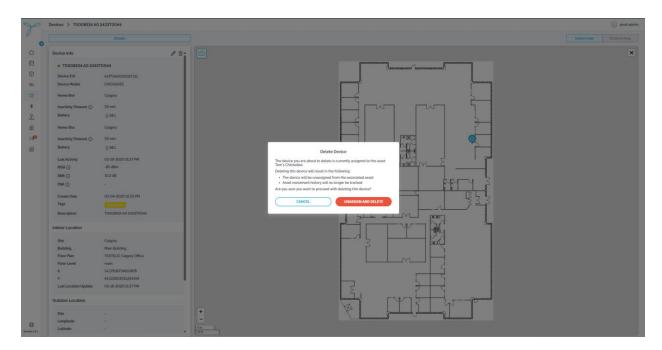
### Modes:

- From Main Table:
  - o Steps:
    - 1. Click the **More Actions** (...) button next to a device (e.g., "TOO08534 AO 243370044") in the table.
    - 2. Select **Delete** from the context menu to open the **Confirm Delete Device** modal.
    - 3. Review the warning about permanent deletion and its impacts (unpairing from assets, data loss).
    - 4. Click **Delete** to confirm; **Cancel** to abort.
  - **Expectations**: The device is permanently removed from the list and cannot be restored.



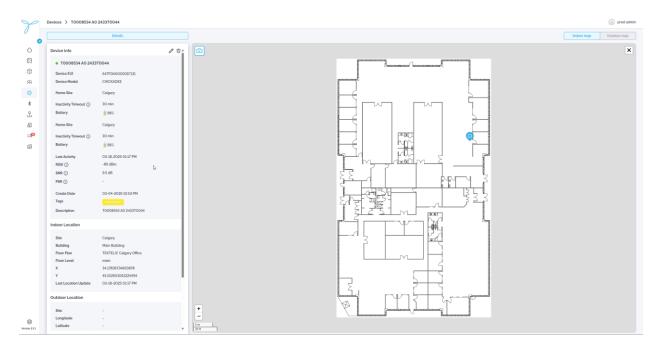
# • From Detailed View:

- o Steps:
  - 1. Open the detailed view of a device (e.g., "TOO08534 AO 243370044").
  - 2. Click the trash icon (next to the pencil icon) to open the **Confirm Delete Device** modal.
  - 3. Review the warning about permanent deletion and its impacts (unpairing from assets, data loss).
  - 4. Click **Delete** to confirm; **Cancel** to abort.
- o **Expectations**: Same as above.



# **6.3.4 Detailed View Modals**

- Details Tab:
  - o Fields:
    - Device Info: Device EUI, Device Model, Home Site, Inactivity Timeout (min), Battery, Last Activity, RSSI (dBm), SNR (dB), PSR (%), Create Date, Tags, Description.
    - **Indoor Location**: Site, Building, Floor Plan, Floor Level, X(m), Y(m), Last Location Update.
    - Outdoor Location: Site, Latitude, Longitude, Altitude, Last Location Update.
    - **Asset**: Asset Name, Asset ID, Asset Type.
  - Actions: View indoor/outdoor map by switching between Indoor Map and Outdoor Map tabs. Toggle visibility with Visibility Preferences (if available).
  - o **Expectations**: Displays real-time or last-known location data on the selected map.



# **6.4 Beacons**

### **Overview**

**Purpose**: The Beacons page allows you to manage and monitor all beacons within the system, including their status, MAC addresses, localization modes, battery levels, and spatial data. Beacons are used for indoor positioning and asset tracking.

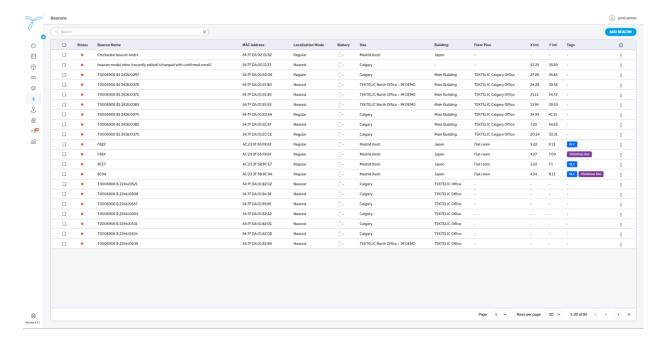
**Access**: Access this page via the main navigation menu under the **Beacons** section.

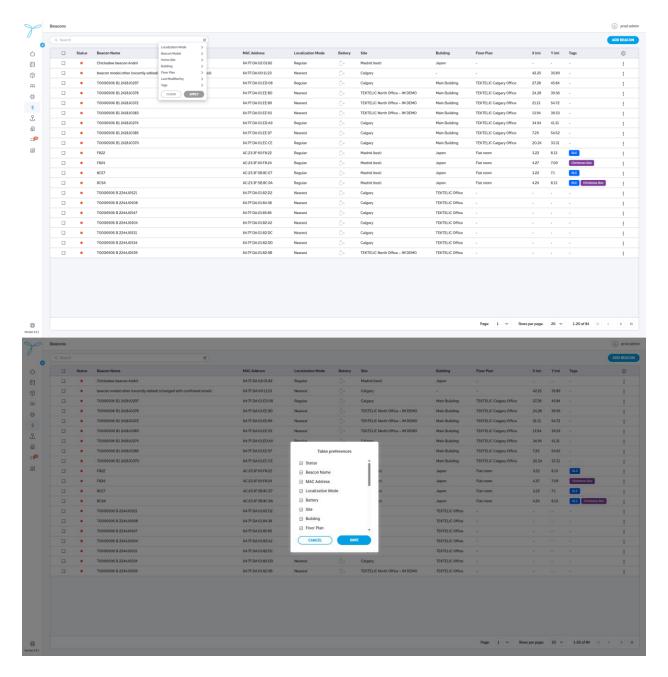
**Intended Users**: Admins and users with permissions to view or manage beacons can access and use this page.

### **Key Features and Functions**

### **List View (Main Table)**

- The table displays all beacons with the following default columns: Status, Beacon Name, MAC Address, Localization Mode, Battery, Site, Building, Floor Plan, X (m), Y (m), Tags.
- Column Configuration (Table Preferences):
  - o Click the gear icon to open the **Table Preferences** modal.
  - Select which columns to show or hide (e.g., Status, Beacon Name, MAC Address, Localization Mode, Battery, Site, Building, Floor Plan).
  - Columns can be rearranged by dragging, hidden by deselecting, but resizing is not supported.
  - Click Save to apply changes; Cancel to discard.
- **Search and Sort**: Use the search bar to find beacons by name, MAC Address, or other criteria, and sort columns like Battery or Last Modified in ascending or descending order. Filtering by Site is available via the filter dropdown (e.g., Calgary, Madrid (test)).
- **Export Data**: Export the table to a .csv file by clicking the **CSV** button, including data matching current search and filter criteria.
- Actions (Based on Permissions):
  - Click the **More Actions** (...) button next to a beacon in the table to open a context menu with **Edit** and **Delete** options.
  - o Admins: Add, edit, or delete beacons.
  - o Standard Users: View beacons; edit or delete if granted explicit permissions.



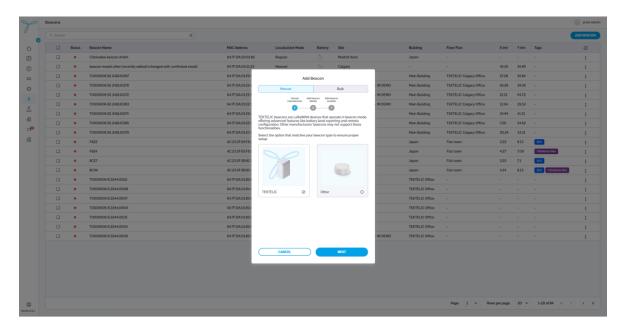


# **Detailed View**

- Open the detailed view by clicking a beacon in the table (e.g., "Chickadee beacon Andrii").
- The detailed view provides tabs for **Details**, with comprehensive beacon information (to be detailed separately due to numerous nuances).

# 6.4.1 Add New Beacon

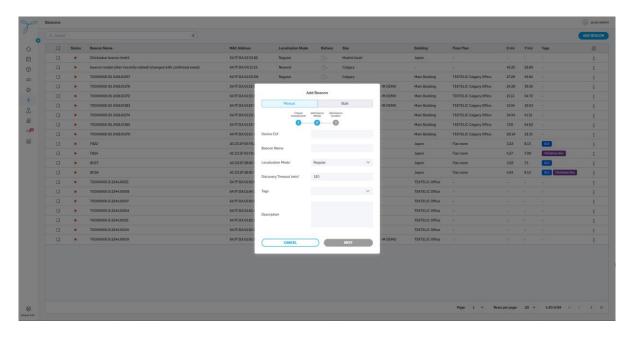
**Conditions**: You need admin permissions or explicit rights to add beacons.



### **Modes:**

- Tektelic:
  - o Steps:
    - 1. Click the **Add Beacon** button.
    - 2. In the **Add Beacon** modal, ensure the **Manual** tab is selected.
    - 3. Select **Tektelic** as the manufacturer.
    - 4. Enter the following fields (marked with \* are required):
      - **Device EUI\*** (Required): Input the beacon's unique EUI (e.g., "647FDA000001F136").
      - **Localization Mode**\* (Required): Select from dropdown (e.g., Regular, Nearest).
      - \**Discovery Timeout (min)* (Required): Set a timeout (default is 120 minutes).
      - **Beacon Name** (Optional): Assign a name to the beacon.
      - **Battery Install Date** (Optional): Set the installation date (default is current date, e.g., 03/18/2025).
      - Battery Capacity (mAh) (Optional): Input battery capacity.
      - **Device Consumption (mA) (Optional): Input device consumption.**
      - **X** (**m**) (Optional): Input X-coordinate.
      - **Y** (**m**) (Optional): Input Y-coordinate.
      - **Tags** (Optional): Add tags for organization.
      - **Description** (Optional): Add a note.

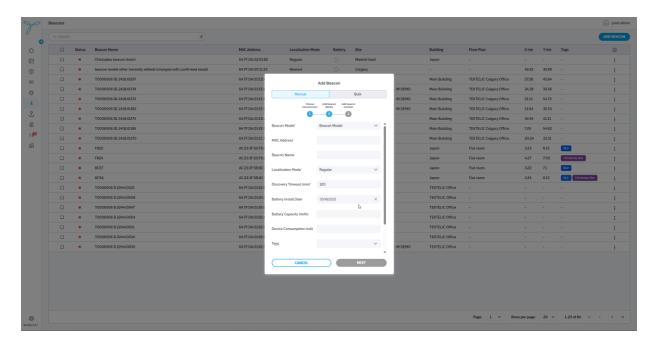
- 5. Click **Save** to create the beacon.
- **Expectations**: The Tektelic beacon is added to the system with the specified parameters.



### • 3rd Party:

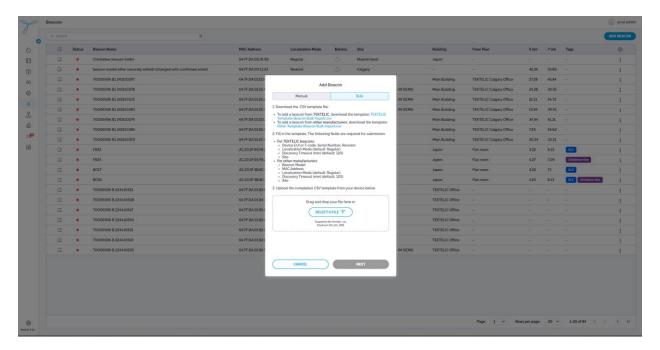
- o Steps:
  - 1. Click the **Add Beacon** button.
  - 2. In the **Add Beacon** modal, ensure the **Manual** tab is selected.
  - 3. Select **Other** as the manufacturer.
  - 4. Enter the following fields (marked with \* are required):
    - Beacon Model\* (Required): Select from dropdown (e.g., AC23F-65F-8F24, AC23F-58-BC-E7).
    - MAC Address\* (Required): Input the beacon's MAC address (e.g., "64:7F:DA:01:82:02").
    - Localization Mode\* (Required): Select from dropdown (e.g., Regular).
    - \*Discovery Timeout (min) (Required): Set a timeout (default is 120 minutes).
    - **Beacon Name** (Optional): Assign a name to the beacon.
    - **Battery Install Date** (Optional): Set the installation date (default is current date, e.g., 03/18/2025).

- Battery Capacity (mAh) (Optional): Input battery capacity.
- **Device Consumption (mA) (Optional): Input device consumption.**
- **X** (**m**) (Optional): Input X-coordinate.
- Y (m) (Optional): Input Y-coordinate.
- Tags (Optional): Add tags for organization.
- **Description** (Optional): Add a note.
- 5. Click **Save** to create the beacon.
- **Expectations**: The 3rd party beacon is added to the system with the specified parameters.



### Bulk:

- o Steps:
  - 1. Click the **Add Beacon** button and select **Bulk**.
  - 2. In the **Add Beacon** modal, ensure the **Bulk** tab is selected.
  - 3. Follow these steps:
    - Download the CSV template file by clicking Download the CSV template file.
    - Fill in the required fields (e.g., Beacon Model, MAC Address, Localization Mode, Discovery Timeout, X (m), Y (m)) in the template.
    - Upload the completed CSV file by dragging and dropping or using the **Select File** button (supports .csv files, maximum size 2MB).
  - 4. Click **Next** to process the upload.
  - 5. Review and confirm the data, then click **Save**.
- **Expectations**: Multiple beacons are added based on the uploaded CSV, appearing in the list for tracking.

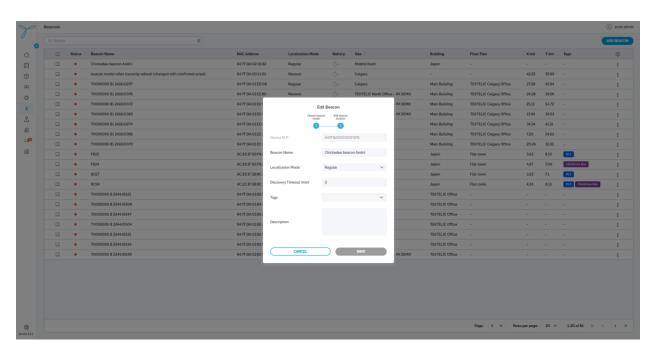


# 6.4.2 Edit Beacon

**Conditions**: You need admin permissions or explicit rights to edit beacons. The beacon must already exist.

### **Modes:**

- From Main Table:
  - o Steps:
    - 1. Click the **More Actions (...)** button next to a beacon (e.g., "Chickadee beacon Andrii") in the table.
    - 2. Select **Edit** from the context menu to open the edit modal.
    - 3. Update the following fields:
      - **Beacon Name** (Editable): Update the name.
      - Localization Mode (Editable): Change the mode.
      - **Discovery Timeout (min)** (Editable): Adjust the timeout.
      - **Battery Install Date** (Editable): Update the date.
      - **Battery Capacity (mAh)** (Editable): Update capacity.
      - **Device Consumption** (mA) (Editable): Update consumption.
      - **X** (**m**) (Editable): Update X-coordinate.
      - Y (m) (Editable): Update Y-coordinate.
      - **Tags** (Editable): Add or remove tags.
      - **Description** (Editable): Update the note.
    - 4. Click **Save** to confirm changes; **Cancel** to discard.
  - **Expectations**: The updated beacon reflects changes in the list and continues to be monitored.



### • From Detailed View:

- o Steps:
  - 1. Open the detailed view of a beacon (e.g., "Chickadee beacon Andrii").
  - 2. Click the pencil icon in the **Details** tab to edit fields.
  - 3. Update the same fields as above and save via the respective section.
- o **Expectations**: Same as above.



# 6.4.3 Delete Beacon

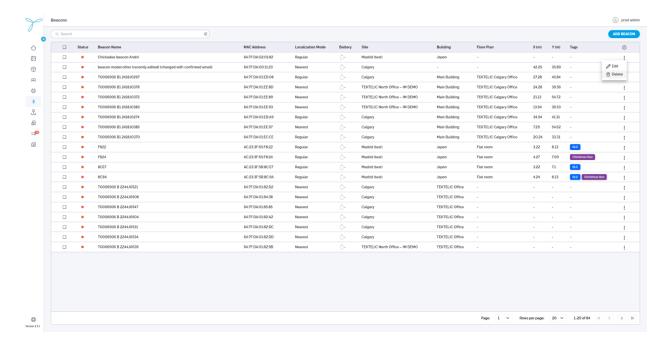
**Conditions**: You need admin permissions or explicit rights to delete beacons. The beacon must not be linked to active event rules or assets.

**Consequences**: Deleting a beacon removes it from the system, unpairs it from any associated data, and stops its tracking. This affects historical records, location logs, and map visibility.

### Modes:

#### • From Main Table:

- Steps:
  - 1. Click the **More Actions** (...) button next to a beacon (e.g., "Chickadee beacon Andrii") in the table.
  - 2. Select **Delete** from the context menu to open the **Confirm Delete Beacon** modal.
  - 3. Review the warning about permanent deletion and its impacts (unpairing, data loss).
  - 4. Click **Delete** to confirm; **Cancel** to abort.
- **Expectations**: The beacon is permanently removed from the list and cannot be restored.



### • From Detailed View:

- o Steps:
  - 1. Open the detailed view of a beacon (e.g., "Chickadee beacon Andrii").
  - 2. Click the trash icon (next to the pencil icon) to open the **Confirm Delete Beacon** modal.
  - 3. Review the warning about permanent deletion and its impacts (unpairing, data loss).
  - 4. Click **Delete** to confirm: **Cancel** to abort.
- o **Expectations**: Same as above.

# 6.4.4 Detailed view

### Overview

**Purpose**: The Detailed View provides an in-depth look at a specific beacon's configuration, activity, connectivity, and location data. It includes a map interface for visualizing and managing the beacon's position.

**Access**: Open the detailed view by clicking a beacon in the **Beacons** list (e.g., "T0006906 B1 2418J0297").

**Intended Users**: Admins and users with permissions to view or manage beacon details.

## **Key Features and Functions**

### **Tabs and Sections**

### • Details Tab:

 Displays comprehensive information about the selected beacon, organized into sections.

### **Beacon Info**

- Parameters:
  - o **Beacon Name**: T0006906 B1 2418J0297
  - **Localization Mode**: Regular
  - o Discovered Timeout: -
  - o **Beacon ID**: ae81bb14-8a61-4988-808a-bb9b12f88f17
  - o **Device EUI**: 647FDA000001D982
  - MAC Address: 64:7F:DA:01:ED:08
  - o **Beacon Model**: PELICAN
  - o Battery: -
  - o Battery Capacity: -
  - Device Consumption: -
  - o Last Battery Report: -
  - o Create Date: -
  - o Tags: -
  - o Description: -

### **Activity & Connectivity**

- Parameters:
  - o LoRaWAN: -
  - o Last Activity: -
  - o **RSSI**: -
  - o SNR: -
  - o **PSR**: -
  - $\circ$  **BLE**:
    - Last Discovered: -
    - Tracker EUI: -
    - Asset Name: -
    - Beacon RSSI: -

### **Indoor Location**

- Parameters:
  - o Site: Calgary
  - o **Building**: Main Building
  - o Floor Plan: TEKTELIC Calgary Office
  - o **Floor Level**: main

X (m): 27.28Y (m): 45.84

o Last Activity: 02-14-2025 01:19 AM

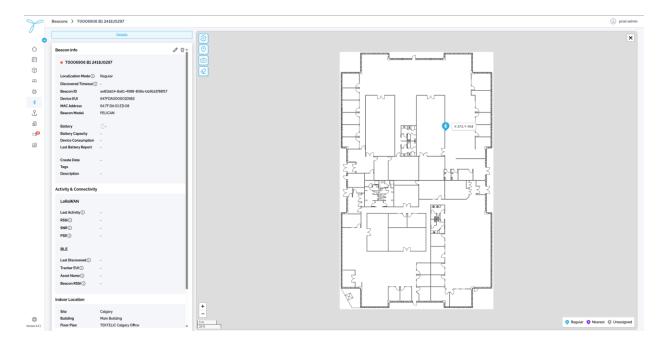
o Last Modified by: orassykhin@tektelic.com

## **Map Interface**

- **Visual Representation**: Displays the beacon's position on the selected floor plan (e.g., TEKTELIC Calgary Office) with a marker (e.g., blue icon at X:27.28, Y:45.84).
- Buttons and Actions:
  - o Visibility Preferences:
    - Option: Only Geofence.
    - Allows toggling visibility settings to show only geofence boundaries on the map.
  - o Draw Mode:
    - Enables repositioning of the beacon on the map.
    - **Steps**: Click to activate, drag the beacon to a new position, click again to confirm and save the new coordinates (X (m), Y (m)).
    - **Expectations**: Updates the beacon's location in real-time on the map and in the Indoor Location section.
  - Export (Screenshot):
    - Captures the current map view as a screenshot.
    - **Steps**: Click to download the image file.
    - **Expectations**: Saves the screenshot to the user's device.

### o **Delete**:

- Initiates the deletion process for the beacon.
- Steps: Click to open the delete mode, click the beacon marker on the map to select it, click again to confirm deletion in the Confirm Delete Beacon modal.
- Consequences: Removes the beacon from the system, unpairs it from associated data, and affects historical records and map visibility.
- **Expectations**: The beacon is permanently removed and cannot be restored.



# 6.4.5 Add third-party beacon model (available only via API)

**Conditions**: You need admin permissions or explicit rights to add beacon models. This functionality is currently available only through the backend API.

### Steps (via API):

#### Preconditions:

To operate with the API, you will need to receive an access token for LOCUS account. Please contact <a href="mailto:astarchenko@tektelic.com">astarchenko@tektelic.com</a>

- 1. Use an API client (e.g., Postman) to send a POST request to the endpoint for creating beacon models (e.g., https://api.locus.tektelic.com/beacon-models).
- 2. In the request body, provide the following JSON payload:

```
{
"name": "beacon_model",
"description": "beacon_model",
"manufacturer": "Other",
"tenantId": "5348f3a1-0d65-4c78-a19e-a604d83e3512"
}
```

- 3. Set the appropriate headers (e.g., Content-Type: application/json, and include an authorization token).
- 4. Send the request and verify the response (e.g., a 201 Created status with the created model's details, including a generated id).

# 6.5 Sites

#### Overview

**Purpose**: The Sites page allows users to manage and monitor all sites within the system, including their names, assets inside, tags, Site IDs, and creation dates. Sites represent geographical locations where beacons and assets are deployed.

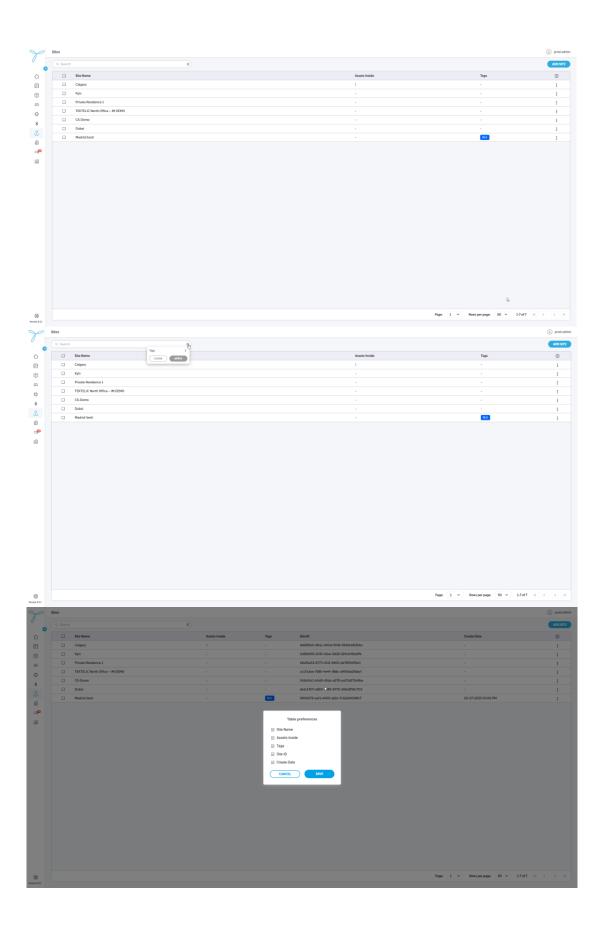
Access: Access this page via the main navigation menu under the **Sites** section.

**Intended Users**: Admins and users with permissions to view or manage sites.

### **Key Features and Functions**

### **List View (Main Table)**

- The table displays all sites with the following default columns: Site Name, Assets Inside, Tags, Site ID, Create Date.
- Column Configuration (Table Preferences):
  - o Click the gear icon to open the **Table Preferences** modal.
  - Select which columns to show or hide (e.g., Site Name, Assets Inside, Tags, Site ID, Create Date).
  - Columns can be rearranged by dragging, hidden by deselecting, but resizing is not supported.
  - o Click **Save** to apply changes; **Cancel** to discard.
  - Note: Only the specified columns (Site Name, Assets Inside, Tags, Site ID, Create Date) are available.
- Search and Filter:
  - Use the **Search** bar to find sites by Site Name.
  - o Use the **Tags** filter dropdown to filter sites by tags (e.g., BLE).
    - Steps: Click the filter icon, select tags (e.g., BLE), click Apply to filter, or Clear to reset.
    - **Expectations**: Displays only sites matching the selected tags.
- Actions (Based on Permissions):
  - o Click the **More Actions** (...) button next to a site in the table to open a context menu with **Edit** and **Delete** options (to be detailed if needed).
  - o Admins: Add, edit, or delete sites.
  - o Standard Users: View sites; edit or delete if granted explicit permissions.
- **Pagination**: Adjust rows per page (e.g., 50) and navigate pages (e.g., 1 of 7) using the pagination controls at the bottom.

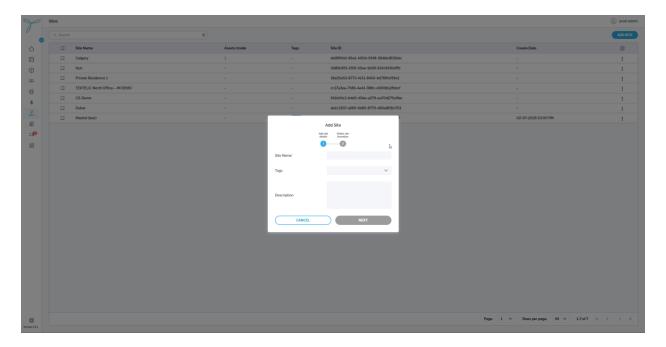


# 6.5.1 Add New Site

**Conditions**: You need admin permissions or explicit rights to add sites.

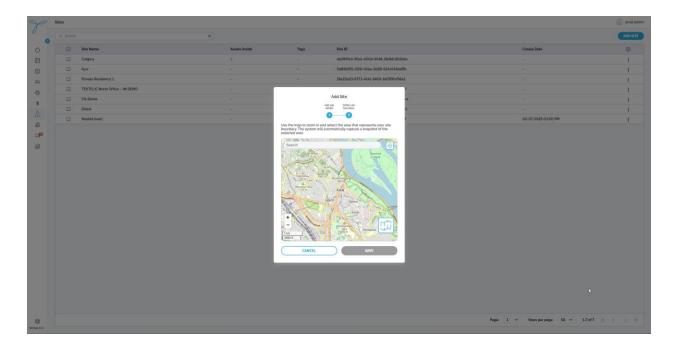
### Steps:

- 1. Click the **Add Site** button to open the **Add Site** modal.
- 2. Step 1: Enter Site Details:
  - o **Site Name**: Input the site name (e.g., "Madrid (test)").
  - o **Tags**: Select from dropdown or add new tags (e.g., BLE).
  - o **Description**: Input an optional description.
  - o Click **Next** to proceed or **Cancel** to discard.



### 3. Step 2: Define Site Boundary:

- o A map interface appears with a search bar to locate the site.
- Options:
  - Enter an address in the search bar, and the map will load the corresponding coordinates.
  - Manually drag the map to adjust the view and select the area.
- o The system automatically captures a screenshot of the selected area as the site boundary.
- o Click **Save** to confirm; **Cancel** to discard.
- **Expectations**: The new site is added to the system with the specified name, tags, description, and boundary map.

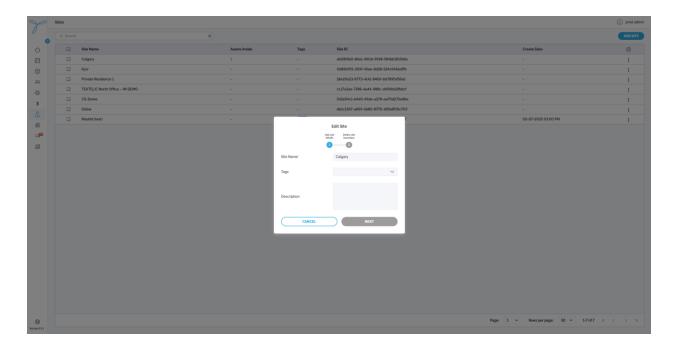


# 6.5.2 Edit Site

**Conditions**: You need admin permissions or explicit rights to edit sites. The site must already exist.

### **Steps**:

- Click the **More Actions** (...) button next to a site (e.g., "Madrid (test)") in the table.
- Select **Edit** from the context menu to open the **Edit Site** modal.
- Update the following fields:
  - o **Site Name**: Modify the name.
  - o **Tags**: Add or remove tags.
  - **Description**: Modify the description.
- **Modify Boundary**: Use the same map component as in Add Site to adjust the site boundary.
  - **Steps**: Enter a new address or manually drag the map, then save the updated boundary.
- Click **Save** to confirm changes; **Cancel** to discard.
- **Expectations**: The updated site reflects changes in the list, including the boundary.



# 6.5.3 Delete Site

**Conditions**: You need admin permissions or explicit rights to delete sites. The site must not be linked to active buildings, assets, or geofences.

**Consequences**: Deleting a site removes it from the system, unpairs it from associated data, and affects related records. If the site is associated with buildings, assets, or geofences, deletion is blocked until all dependencies are removed.

### Steps:

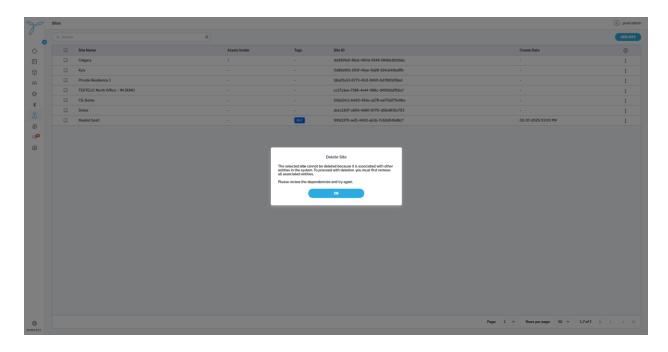
- Click the **More Actions** (...) button next to a site (e.g., "Madrid (test)") in the table.
- Select **Delete** from the context menu to open the **Confirm Delete Site** modal.
- If Dependencies Exist:
  - A warning modal appears: "Delete Site is disabled in the system because it is associated with other entities in the system. To proceed with deletion, you must first remove all associated entities. Please review the dependencies and try again."
  - o Click **OK** to close the modal and address dependencies.

### • If No Dependencies:

- Review the warning about permanent deletion and its impacts (unpairing, data loss).
- o Click **Delete** to confirm; **Cancel** to abort.

### • Expectations:

- If dependencies exist, the site remains until all associated buildings, assets, or geofences are deleted.
- o If no dependencies, the site is permanently removed and cannot be restored.



# 6.6 Buildings

### Overview

**Purpose**: The Buildings page allows users to manage and monitor all buildings within the system, including their names, addresses, sites, assets inside, floor plans, tags, Building IDs, and creation dates. Buildings represent specific structures within sites where beacons and assets are located.

Access: Access this page via the main navigation menu under the **Buildings** section.

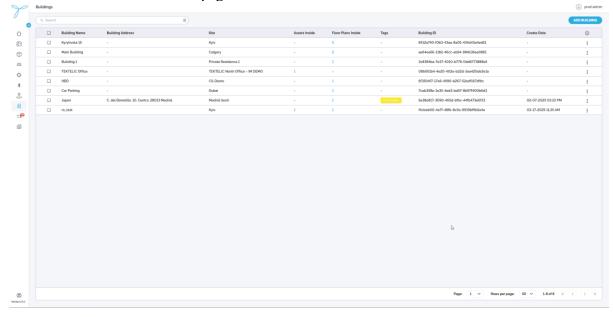
**Intended Users**: Admins and users with permissions to view or manage buildings.

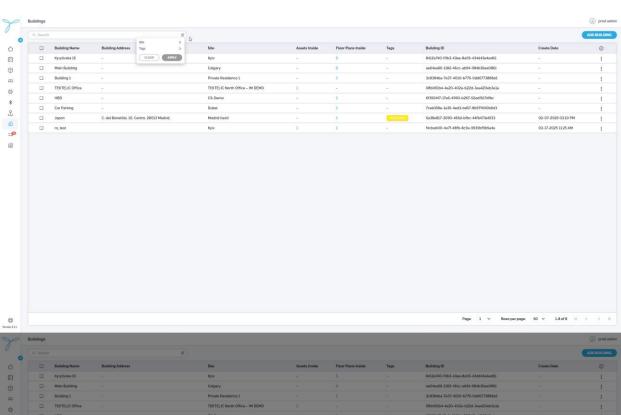
### **Key Features and Functions**

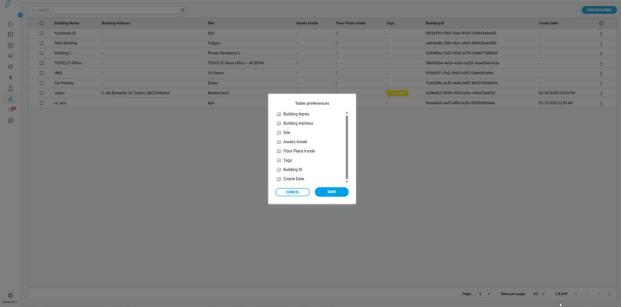
### **List View (Main Table)**

- The table displays all buildings with the following default columns: Building Name, Building Address, Site, Assets Inside, Floor Plans Inside, Tags, Building ID, Create Date.
- Column Configuration (Table Preferences):
  - o Click the gear icon to open the **Table Preferences** modal.
  - Select which columns to show or hide (e.g., Building Name, Building Address, Site, Assets Inside, Floor Plans Inside, Tags, Building ID, Create Date).
  - Columns can be rearranged by dragging, hidden by deselecting, but resizing is not supported.
  - o Click **Save** to apply changes; **Cancel** to discard.
- Search and Filter:
  - o Use the **Search** bar to find buildings by Building Name.

- Use the **Tags** filter dropdown to filter buildings by tags.
  - **Steps**: Click the filter icon, select tags, click **Apply** to filter, or **Clear** to reset.
  - **Expectations**: Displays only buildings matching the selected tags.
- Use the **Site** filter dropdown to filter buildings by site (e.g., CS-Demo, Kyiv (test)).
  - Steps: Click the filter icon, select a site, click Apply to filter, or Clear to reset.
  - **Expectations**: Displays only buildings associated with the selected site.
- Actions (Based on Permissions):
  - Click the More Actions (...) button next to a building in the table to open a context menu with Edit and Delete options (to be detailed if needed).
  - o Admins: Add, edit, or delete buildings.
  - o Standard Users: View buildings; edit or delete if granted explicit permissions.
- **Pagination**: Adjust rows per page (e.g., 50) and navigate pages (e.g., 1 of 8) using the pagination controls at the bottom.





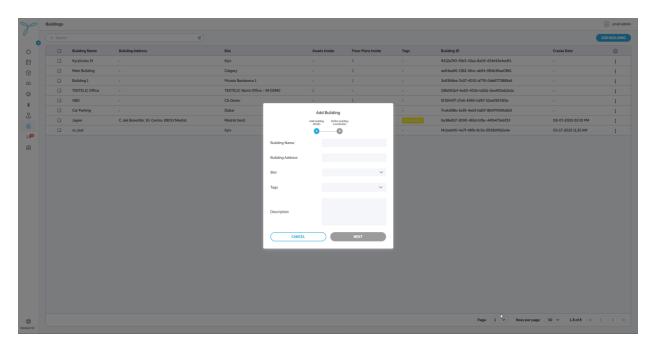


# 6.6.1 Add New Building

**Conditions**: You need admin permissions or explicit rights to add buildings.

## Steps:

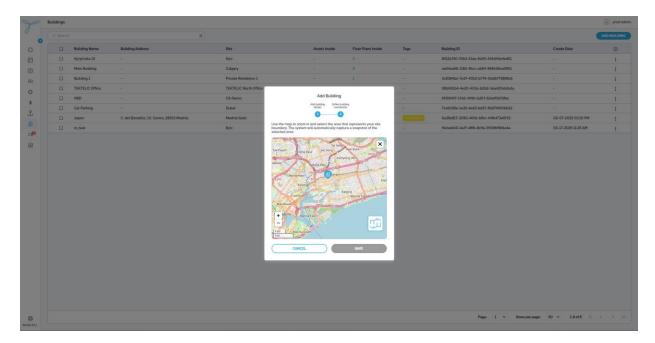
- 1. Click the **Add Building** button to open the **Add Building** modal.
- 2. Step 1: Enter Building Details:
  - o **Building Name**: Input the building name (e.g., "ro\_test").
  - Building Address: Input the address (e.g., "C. del Bonetillo, 10, Centro, 28013 Madrid").
  - o **Site**: Select from dropdown or add a new site (e.g., "Kyiv (test)").
  - o **Tags**: Select from dropdown or add new tags.
  - o **Description**: Input an optional description.
  - o Click **Next** to proceed or **Cancel** to discard.



## 3. Step 2: Define Building Boundary:

- o A map interface appears with a search bar to locate the building.
- Options:
  - Enter an address in the search bar, and the map will load the corresponding coordinates.
  - Manually drag the map to adjust the view and select the area.
- The system automatically captures a screenshot of the selected area as the building boundary.
- o Click Save to confirm; Cancel to discard.

• **Expectations**: The new building is added to the system with the specified name, address, site, tags, description, and boundary map.

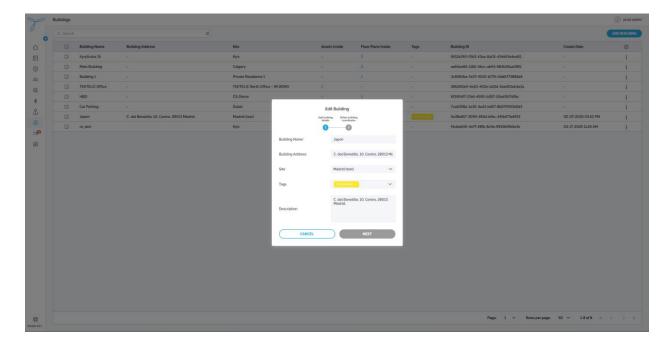


# 6.6.2 Edit Building

**Conditions**: You need admin permissions or explicit rights to edit buildings. The building must already exist.

- From List View: Click the More Actions (...) button next to a building (e.g., "ro\_test") in the table, then select Edit from the context menu to open the Edit Building modal.
- **From Details Screen**: Click the pencil icon in the **Building Info** section of the Building Details Screen to open the **Edit Building** modal.
- Update the following fields:
  - o **Building Name**: Modify the name.
  - o **Building Address**: Modify the address.
  - o **Site**: Change the associated site.
  - o **Tags**: Add or remove tags.
  - **Description**: Modify the description.
- **Modify Boundary**: Use the same map component as in Add Building to adjust the building boundary.
  - **Steps**: Enter a new address or manually drag the map, then save the updated boundary.

- Click **Save** to confirm changes; **Cancel** to discard.
- **Expectations**: The updated building reflects changes in the list and the Building Details Screen, including the boundary.



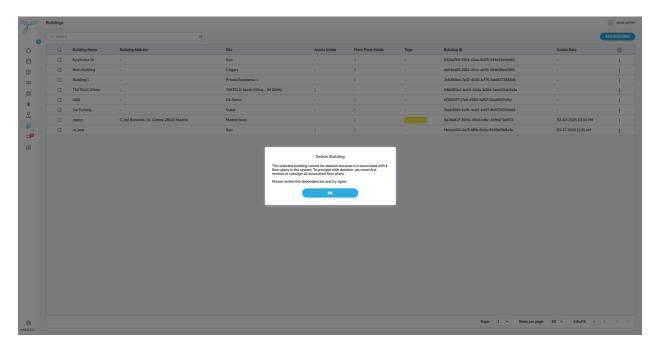
# **6.6.3 Delete Building**

**Conditions**: You need admin permissions or explicit rights to delete buildings. The building must not be linked to active floor plans, assets, or beacons.

**Consequences**: Deleting a building removes it from the system, unpairs it from associated data, and affects related records. If the building is associated with floor plans, assets, or beacons, deletion is blocked until all dependencies are removed.

- Click the **More Actions** (...) button next to a building (e.g., "ro\_test") in the table.
- Select **Delete** from the context menu to open the **Confirm Delete Building** modal.
- If Dependencies Exist:
  - A warning modal appears: "Delete Building is disabled in the system because it is associated with other entities in the system. To proceed with deletion, you must first remove all associated entities. Please review the dependencies and try again."
  - Click **OK** to close the modal and address dependencies.
- If No Dependencies:
  - Review the warning about permanent deletion and its impacts (unpairing, data loss).
  - o Click **Delete** to confirm; **Cancel** to abort.
- Expectations:

- o If dependencies exist, the building remains until all associated floor plans, assets, or beacons are deleted.
- o If no dependencies, the building is permanently removed and cannot be restored.



# 6.6.4 Building details screen

## Overview

**Purpose**: The Building Details Screen provides a detailed view of a specific building, including its core information (Building Info) and a map interface for visualizing its location and associated assets or beacons.

Access: Access this screen by clicking on a building (e.g., "Japon") in the Buildings list.

Intended Users: Admins and users with permissions to view or manage building details.

## **Key Features and Functions**

### **Tabs and Sections**

### Details Tab:

 Displays comprehensive information about the selected building, organized into sections.

## **Building Info**

### Parameters:

o **Building Name**: Japon

Building ID: 6a38e817-3094-45bd-b4f4-7d7c20456f33

Site: Madrid (test)Assets Inside: 0Floor Plans: 1

o Address: C. del Bonetillo, 10, Centro, 28013 Madrid

o **Create Date**: 02-07-2025 03:10 PM

o **Tags**: CheckBox

o **Description**: C. del Bonetillo, 10, Centro, 28013 Madrid

## **Map Interface**

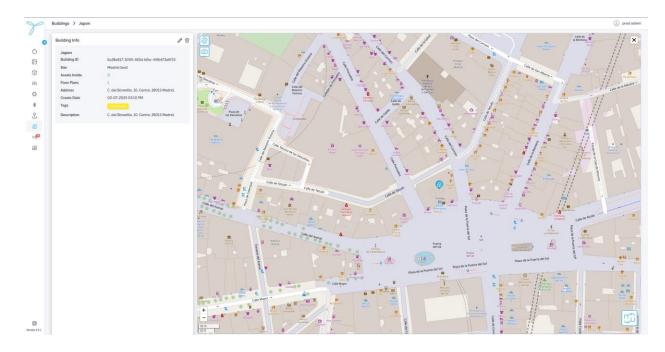
- **Visual Representation**: Displays the building's location on a map with markers indicating assets, beacons, or other relevant entities (e.g., purple and blue markers in the Madrid area around Plaza de la Puerta del Sol).
  - o The map includes zoom controls (e.g., 20m, 50m scale) and a search bar for navigation.
  - o A red outline may represent the building boundary or geofence area.

### • Interactivity:

- o **Zoom**: Use the + and controls to zoom in/out on the map.
- Search: Enter an address or location (e.g., "C. del Bonetillo, 10, Madrid") to center the map.
- **Marker Details**: Click on markers to view associated asset or beacon information (if available).

### Buttons and Actions:

- o **Edit**: Click the pencil icon in the Building Info section to open the Edit Building modal (same process as in the Buildings list).
- **Delete**: Click the trash icon in the Building Info section to initiate deletion (subject to dependency checks, as in the Buildings list).
- **Visibility Preferences**: Toggle visibility options (e.g., show only geofence or all markers), though specific options may depend on the system configuration.
- **Export (Screenshot)**: Capture the current map view as a screenshot (similar to Beacons map functionality).



# 6.7 Events

### Overview

**Purpose**: The Events page allows users to monitor and analyze events related to assets, such as entering or exiting geofences, across sites, buildings, and floor plans. It provides a detailed log of events with timestamps, statuses, and associated entities.

**Access**: Access this page via the main navigation menu under the **Events** section.

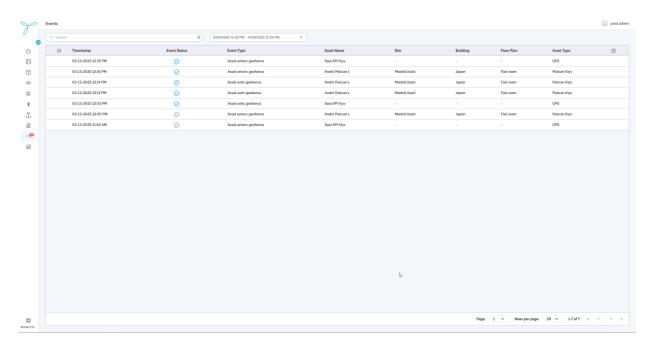
**Intended Users**: Admins and users with permissions to view or manage events.

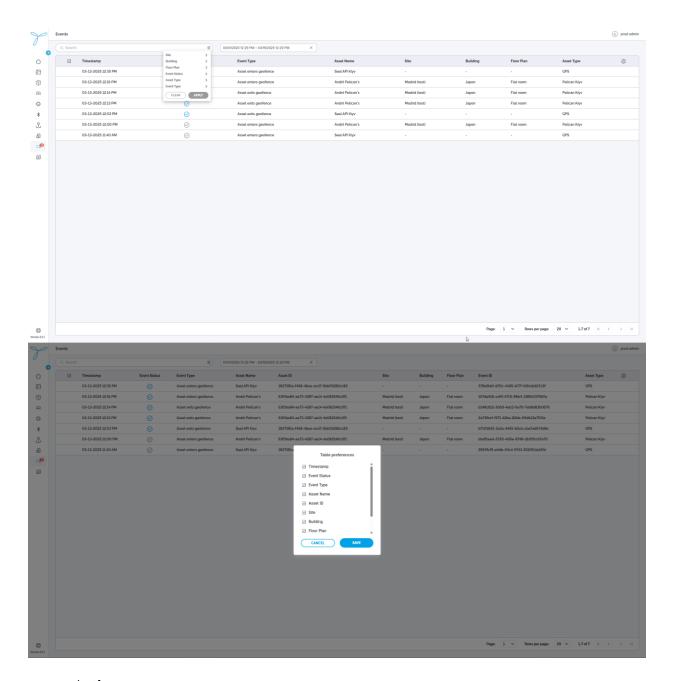
## **Key Features and Functions**

### **List View (Main Table)**

- The table displays all events with the following default columns: Timestamp, Event Status, Event Type, Asset Name, Asset ID, Site, Building, Floor Plan, Event ID, Asset Type.
- Column Configuration (Table Preferences):
  - o Click the gear icon to open the **Table Preferences** modal.
  - Select which columns to show or hide (e.g., Timestamp, Event Status, Event Type, Asset Name, Asset ID, Site, Building, Floor Plan, Event ID, Asset Type).
  - Columns can be rearranged by dragging, hidden by deselecting, but resizing is not supported.
  - o Click **Save** to apply changes; **Cancel** to discard.
- Search and Filter:
  - o Use the **Search** bar to find events by Asset Name.

- Use the **Timestamp Filter**: Select a date range (e.g., 03/19/2025 12:31 PM 03/19/2025 12:29 PM) to filter events within that period.
  - **Steps**: Click the calendar icon, select the start and end dates/times, and apply the filter.
  - **Expectations**: Displays only events within the selected time range.
- o Use the **Site** filter dropdown to filter events by site (e.g., Madrid (test)).
  - **Steps**: Click the filter icon, select a site, click **Apply** to filter, or **Clear** to reset.
  - **Expectations**: Displays only events associated with the selected site.
- Use the **Building** filter dropdown to filter events by building (e.g., Japon).
  - **Steps**: Click the filter icon, select a building, click **Apply** to filter, or **Clear** to reset.
  - **Expectations**: Displays only events associated with the selected building.
- Use the **Floor Plan** filter dropdown to filter events by floor plan (e.g., Flat room).
  - Steps: Click the filter icon, select a floor plan, click Apply to filter, or Clear to reset.
  - **Expectations**: Displays only events associated with the selected floor plan.
- Use the Event Status filter dropdown to filter events by status (e.g., checked/unchecked).
  - Steps: Click the filter icon, select a status, click **Apply** to filter, or **Clear** to reset.
  - **Expectations**: Displays only events matching the selected status.
- Use the **Event Type** filter dropdown to filter events by type (e.g., Asset enters geofence, Asset exits geofence).
  - **Steps**: Click the filter icon, select an event type, click **Apply** to filter, or **Clear** to reset.
  - **Expectations**: Displays only events matching the selected type.





## • Actions:

- o Click on an event row (e.g., "Asset enters geofence" for "Andril Pelican's" at 03-13-2025 12:16 PM) to open the **Event Details Screen**.
- **Pagination**: Adjust rows per page (e.g., 20) and navigate pages (e.g., 1 of 7) using the pagination controls at the bottom.

## **Event Details Screen**

- Access: Click on an event row in the Events list (e.g., "Asset enters geofence" for "Andril Pelican's" at 03-13-2025 12:16 PM) to open the Event Details Screen.
- Tabs and Sections:

- Details Tab: Displays detailed information about the asset associated with the event.
- **History Tab**: Shows the history of the asset (not detailed in this context).
- Events Tab: Displays a list of events for the selected asset (same as the main Events table).
  - Columns: Timestamp, Event Status, Event Type, Asset Name, Asset ID.
  - **Filters**: Same as the main Events page, including Timestamp (e.g., 03/19/2025 12:31 PM 03/19/2025 12:31 PM).
  - **Export**: Download the events list as a CSV file using the download button.

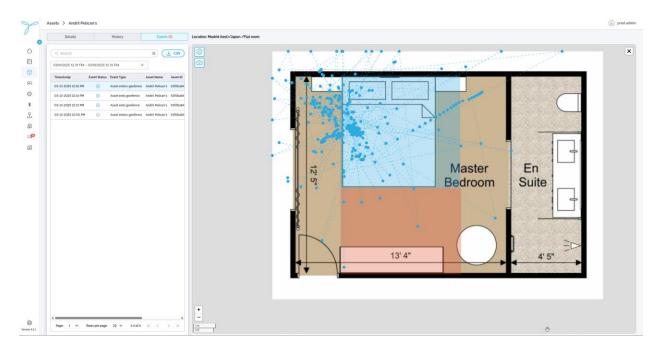
### • Map Interface:

- Location Path: Displays the location path of the event (e.g., "Madrid (test) / Japon / Flat room").
- Floor Plan View: Shows the floor plan (e.g., "Flat room" in building "Japon" at site "Madrid (test)") with asset movement data.
  - Blue dots represent asset positions over time, with dashed lines indicating movement directions.
  - The floor plan includes labeled rooms (e.g., Master Bedroom, En Suite) with dimensions (e.g., 12'3" x 4'5").

### **Visibility Preferences:**

- Click the visibility preferences button to open the **Visibility Preferences** modal.
- Options:
  - **Movement Directions**: Toggle to show/hide dashed lines indicating the asset's movement path.
  - Tracks: Toggle to show/hide the blue dots representing the asset's position history.
  - Geofences: Toggle to show/hide geofence boundaries on the floor plan.
- Click Apply to confirm changes; Cancel to discard.

- Interactivity:
  - Zoom in/out using the + and controls.
  - Export the current view as a screenshot using the camera icon.
- **Expectations**: The map updates based on the selected visibility preferences, showing or hiding movement directions, tracks, and geofences as configured.



## **6.8 Event Rules**

### Overview

**Purpose**: The Event Rules page allows users to create, manage, and monitor rules that trigger events based on specific conditions, such as assets entering or exiting geofences. Rules can be associated with sites, tags, and webhooks for notifications.

Access: Access this page via the main navigation menu under the **Event Rules** section.

**Intended Users**: Admins and users with permissions to view or manage event rules.

## **Key Features and Functions**

## **List View (Main Table)**

- The table displays all event rules with the following default columns: State, Event Rule Name, Event Trigger, Site, Tags, Last Triggered, Triggered, Event Rule ID, Create Date, Description.
- Column Configuration (Table Preferences):
  - o Click the gear icon to open the **Table Preferences** modal.
  - Select which columns to show or hide (e.g., State, Event Rule Name, Event Trigger, Site, Tags, Last Triggered, Triggered, Event Rule ID, Create Date, Description).
  - Columns can be rearranged by dragging, hidden by deselecting, but resizing is not supported.
  - o Click **Save** to apply changes; **Cancel** to discard.

### Search and Filter:

- Use the **Search** bar to find event rules by Event Rule Name.
- o Use the **Site** filter dropdown to filter event rules by site (e.g., Madrid (test), Kyiv).
  - Steps: Click the filter icon, select a site, click Apply to filter, or Clear to reset.
  - **Expectations**: Displays only event rules associated with the selected site.
- Use the **Event Trigger** filter dropdown to filter event rules by trigger type (e.g., Asset enters geofence, Asset exits geofence).
  - **Steps**: Click the filter icon, select a trigger type, click **Apply** to filter, or **Clear** to reset.
  - **Expectations**: Displays only event rules matching the selected trigger type.

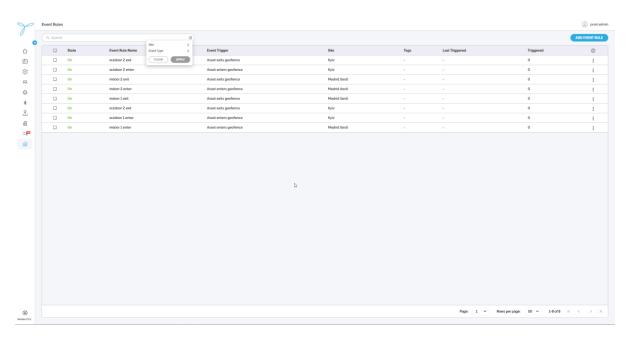
### • Column Details:

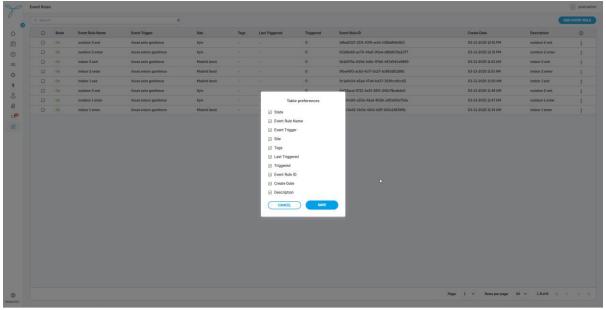
- **Last Triggered**: Displays the timestamp of the last time the rule was triggered (e.g., "03-13-2025 12:16 PM"). If the rule has not been triggered, it shows "—".
- o **Triggered**: Displays a counter of events triggered by the rule (e.g., "5"). If the rule has not been triggered, it shows "0".

### • Actions (Based on Permissions):

Click the **More Actions** (...) button next to an event rule in the table to open a context menu with **Edit** and **Delete** options.

- o Admins: Add, edit, or delete event rules.
- o Standard Users: View event rules; edit or delete if granted explicit permissions.
- **Pagination**: Adjust rows per page (e.g., 50) and navigate pages (e.g., 1 of 8) using the pagination controls at the bottom.





## 6.9 Add New Event Rule

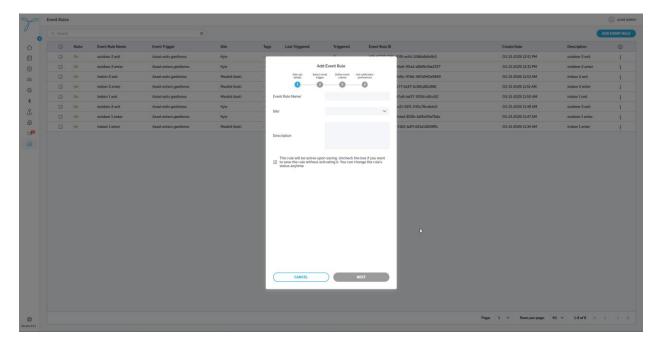
**Conditions**: You need admin permissions or explicit rights to add event rules.

## Steps:

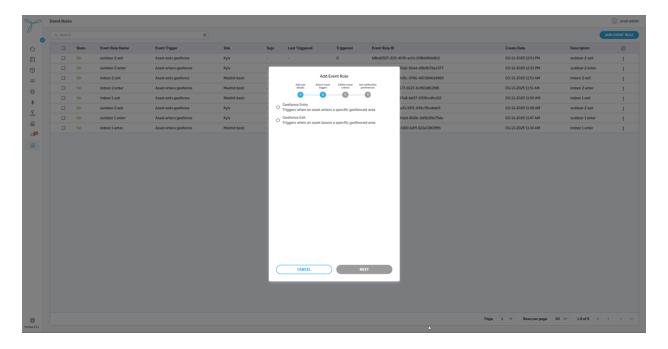
1. Click the **Add Event Rule** button to open the **Add Event Rule** modal.

## **Step 1: Add Rule Details**

- **Event Rule Name**: Input the name of the event rule (e.g., "indoor 2 enter").
- **Site**: Select a site from the dropdown (e.g., Madrid (test)).
- **Description**: Input an optional description (e.g., "indoor 2 enter").
- **State**: Check the box to enable the rule upon saving (default: enabled). Uncheck to save the rule without activating it.
- Click **Next** to proceed or **Cancel** to discard.

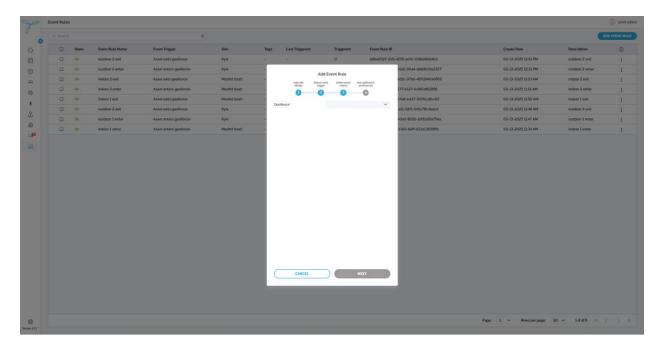


- Step 2: Select Event Trigger:
  - o Choose the event trigger type:
    - **Geofence Enter**: Triggers when an asset enters a specific geofenced area.
    - **Geofence Exit**: Triggers when an asset leaves a specific geofenced area.
  - Click Next to proceed or Cancel to discard.



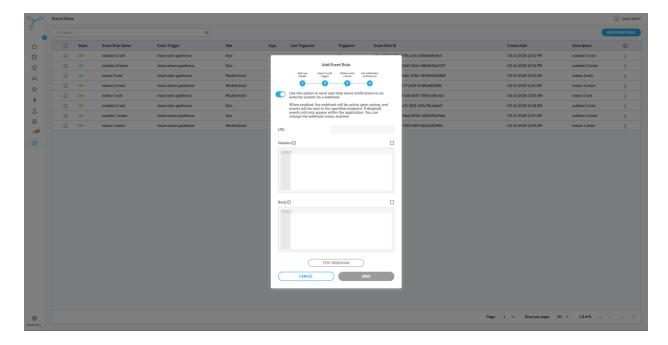
## • Step 3: Define Event Criteria:

- Geofence: Select an existing geofence from the dropdown to associate the rule with it (e.g., "Flat room").
- Click Next to proceed or Cancel to discard.



- Step 4: Set Notification Preferences:
  - Step 4: Set Notification Preferences:
    - Use this option to send real-time event notifications to an external system via a webhook:
      - Check the box to enable webhook notifications (default: disabled).

- **URL**: Input the webhook URL to receive notifications (e.g., "https://focus.beecceptor.com").
- **Headers**: Add optional headers for the webhook request (e.g., {"key":"123"}).
- Body: Define the payload structure for the webhook. This field is fully customizable, allowing users to specify any format (e.g., {"type":"message","content":"<a href="https://schema.org/extensions">https://schema.org/extensions</a>"}).
- Click **Test Webhook** to send a test request to the specified URL and verify the connection.
- Click **Save** to confirm the event rule; **Cancel** to discard.



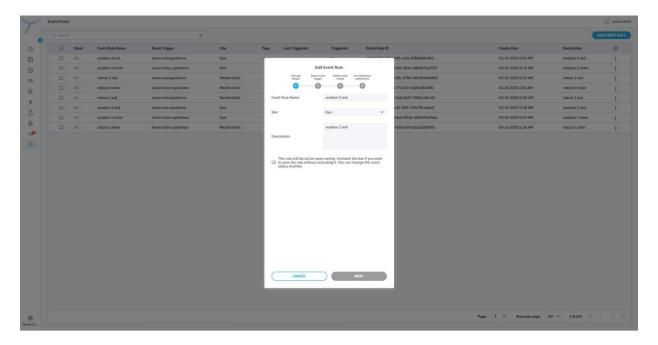
• **Expectations**: The new event rule is added to the system with the specified name, site, description, trigger, geofence, and notification settings. If enabled, it will actively monitor for the specified conditions and trigger events accordingly. The **Triggered** counter starts at "0", and **Last Triggered** shows "—" until the rule is triggered.

## 6.9.1 Edit Event Rule

**Conditions**: You need admin permissions or explicit rights to edit event rules. The event rule must already exist.

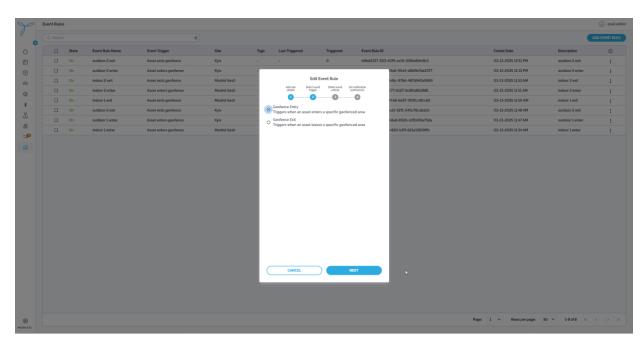
- 1. Click the **More Actions** (...) button next to an event rule (e.g., "outdoor 2 exit") in the table.
- 2. Select **Edit** from the context menu to open the **Edit Event Rule** modal.
- 3. Step 1: Add Rule Details:
  - o **Event Rule Name**: Modify the name (e.g., "outdoor 2 exit").

- o **Site**: Change the associated site (e.g., Kyiv).
- o **Description**: Modify the description (e.g., "outdoor 2 exit").
- o **State**: Enable or disable the rule (default: enabled).
- Click Next to proceed or Cancel to discard.



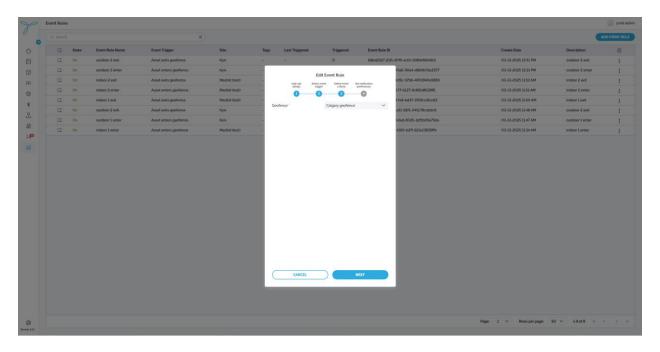
## 4. Step 2: Select Event Trigger:

- Choose the event trigger type:
  - **Geofence Enter**: Triggers when an asset enters a specific geofenced area.
  - **Geofence Exit**: Triggers when an asset leaves a specific geofenced area.
- Click Next to proceed or Cancel to discard.



## 5. Step 3: Define Event Criteria:

• **Geofence**: Select an existing geofence from the dropdown to associate the rule with it (e.g., "Calgary geofence").



- Click Next to proceed or Cancel to discard.
- 6. Step 4: Set Notification Preferences:
  - Use this option to send real-time event notifications to an external system via a webhook:
    - Check the box to enable webhook notifications (default: disabled).
    - **URL**: Modify the webhook URL (e.g., "<a href="https://focus.beecceptor.com">https://focus.beecceptor.com</a>").
    - **Headers**: Update optional headers (e.g., {"key":"123"}).
    - **Body**: Update the payload structure. This field is fully customizable (e.g., {"type":"message","content":"<a href="https://schema.org/extensions">https://schema.org/extensions</a>"}).
  - Click **Test Webhook** to send a test request to the specified URL and verify the connection.
  - Click Save to confirm changes; Cancel to discard.

• **Expectations**: The updated event rule reflects changes in the list, including its name, site, description, trigger, geofence, and notification settings. The **Triggered** counter and **Last Triggered** timestamp remain unchanged unless the rule is triggered again.

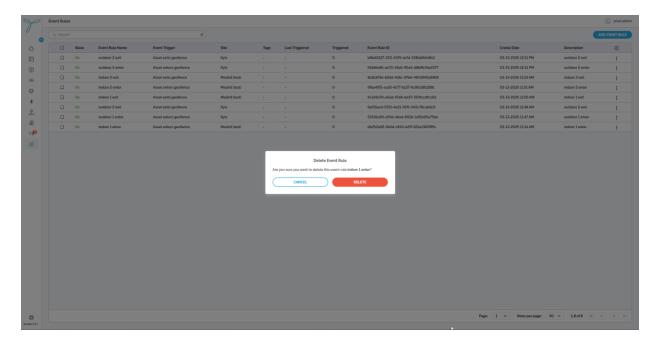


## **6.9.2** Delete Event Rule

**Conditions**: You need admin permissions or explicit rights to delete event rules.

**Consequences**: Deleting an event rule removes it from the system and stops any associated event triggers or notifications. This action is permanent and cannot be undone.

- Click the **More Actions** (...) button next to an event rule (e.g., "indoor 2 enter") in the table.
- Select **Delete** from the context menu to open the **Confirm Delete Event Rule** modal.
- Review the warning about permanent deletion and its impacts.
- Click **Delete** to confirm; **Cancel** to abort.
- **Expectations**: The event rule is permanently removed from the system.



# 7. Network Server Configuration

### Overview

**Purpose**: The Network Server Configuration section guides you through setting up the LoRaWAN Network Server (NS) to integrate with the Locus platform. This includes configuring a data converter to ensure compatibility between the NS and Locus, as well as setting up the integration to enable data transmission.

**Access**: These configurations are performed directly on the LoRaWAN Network Server's management interface, typically through its web dashboard or API, depending on the NS provider.

**Intended Users**: Admins or network engineers responsible for managing the Network Server and integrating it with external platforms like Locus.

# 7.1 Configure Data Converter on Network Server

#### Overview

**Purpose**: A data converter is required to transform incoming and outgoing data between the Network Server and Locus, ensuring that the data format is compatible with Locus' requirements. The converter includes a decoder (for uplink data) and an encoder (for downlink data).

**Conditions**: You need administrative access to the Network Server to configure the data converter. Ensure that your NS supports custom data converters (e.g., via JavaScript or another scripting language).

## **Steps:**

### 1. Access the Network Server Dashboard:

- o Log in to your LoRaWAN Network Server's management interface.
- Navigate to the section for managing applications or integrations (e.g., "Applications" or "Data Converters").

### 2. Create a New Data Converter:

- Find the option to add a new data converter (e.g., "Add Data Converter" or "Create Function").
- o Name the converter (e.g., "LocusDataConverter").
- o Select the scripting language supported by your NS (e.g., JavaScript).

#### 3. Implement the Decoder:

- o In the decoder section, input the following JavaScript code to handle uplink data from devices:
- o // Decoder for uplink data
  o // Input object structure:
  o // bytes int[]
  o // fPort int

```
o // - recvTime - Date (needs type check)
o // - tektelicMetadata - Object
o function decodeUplink(input) {
o if (input.recvTime instanceof Date) {
          // Date operations can be performed if needed
0
o // Output object structure:
o // - data - Object
o // - errors - string[]
o // - warnings - string[]
o // - tektelicMetadata - Object
o return {
0
       "data": {"bytes": input.bytes},
      "errors": [],
0
      "warnings": [],
      "tektelicMetadata": input.tektelicMetadata
0 };
```

This decoder processes the incoming data, preserves the tektelicMetadata, and returns the data in a format compatible with Locus.

### 4. **Implement the Encoder**:

In the encoder section, input the following JavaScript code to handle downlink data to devices:

```
// Encoder for downlink data
// Input object structure:
// - data - Object (customer-defined)

function encodeDownlink(input) {
// Output object structure:
// - fPort - int
// - bytes - int[]
// - errors - string[]
// - warnings - string[]
return {
"fPort": input.data.fPort,
"bytes": input.data.bytes,
"errors": [],
"warnings": []
};
}
```

### 5. Save the Data Converter:

- o Save the data converter configuration on the Network Server.
- Verify that the converter is active and associated with your application on the NS.

**Expectations**: The data converter is configured on the Network Server, ensuring that uplink and downlink data are correctly formatted for Locus integration.

# 7.2 Configure Integration on Network Server

### Overview

**Purpose**: The integration setup on the Network Server enables data to be sent to Locus via an HTTPv2 endpoint. This ensures that device data (e.g., location, status) is transmitted to Locus for processing and tracking.

**Conditions**: You need administrative access to the Network Server to configure integrations. The data converter (configured in the previous section) must be active.

## Steps:

### 1. Access the Network Server Dashboard:

- o Log in to your LoRaWAN Network Server's management interface.
- Navigate to the section for managing integrations (e.g., "Integrations" or "Application Integrations").

## 2. Add a New Integration:

- o Find the option to add a new integration (e.g., "Add Integration").
- Select the integration type as **HTTPv2**.

## 3. Configure Integration Settings:

- o **Name**: Provide a name for the integration (e.g., "LocusIntegration").
- o **Type**: Ensure the type is set to **HTTPv2**.
- Data Converter: Select the data converter created earlier (e.g., "LocusDataConverter").
- Application Address: Specify the application address for Locus. This URL depends on the client's tenant. Contact the development team to obtain the correct URL (e.g., <a href="https://tenant-specific.locus.tektelic.com">https://tenant-specific.locus.tektelic.com</a>).
- o **Port**: Set the port to **443**.
- o Base Path: Set the base path to /v2/integration.
- o **HTTPS**: Enable HTTPS to ensure secure communication.
- Request Headers:
  - Add the following header: ApiKey: ApiKey.
  - Note: Replace ApiKey with the actual API key provided by the Locus development team.

### 4. Save and Test the Integration:

- o Save the integration configuration on the Network Server.
- Test the integration by sending a sample message from a device to verify that data is successfully transmitted to Locus (e.g., check the Locus dashboard for incoming data).

**Expectations**: The Network Server is now integrated with Locus, and device data is transmitted to the Locus platform via the configured HTTPv2 endpoint.