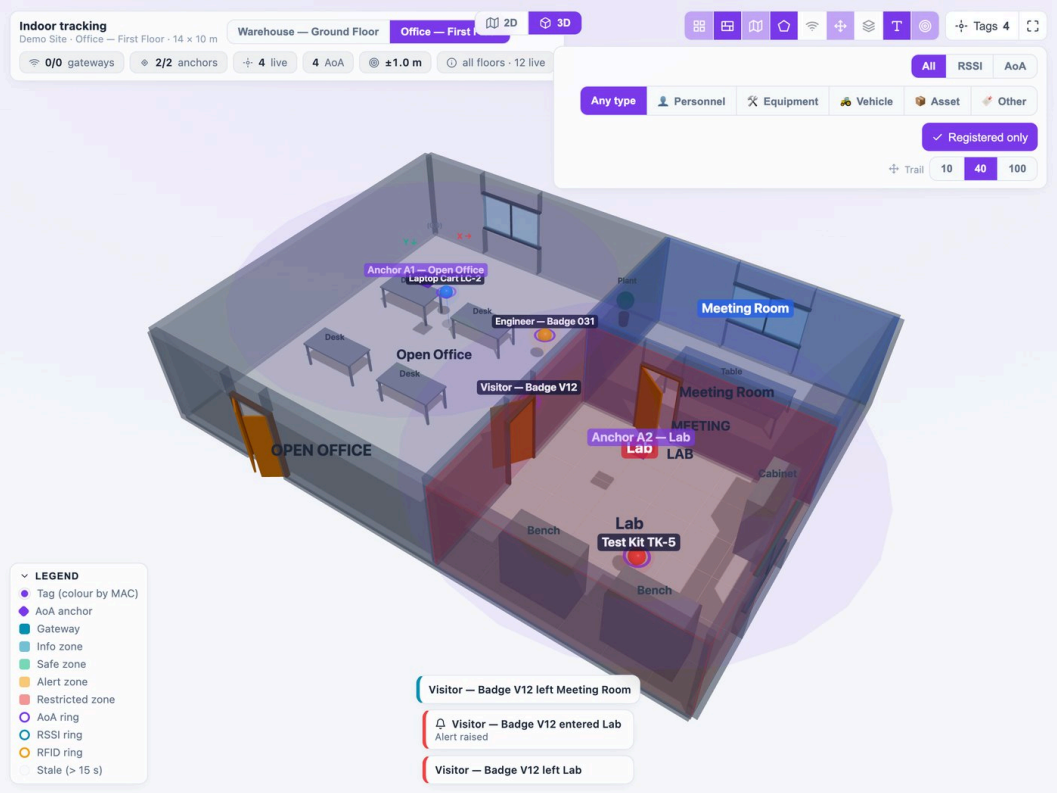
USER MANUAL

Identium RTLS

Location Engine and RTLS Dashboard

Installation, floor plans, gateways and AoA anchors, tags, the live map, zones and alerts, reports and calibration, for BLE, AoA and active RFID tracking



THIS MANUAL COVERS	VERSION	PLATFORM
Identium RTLS platform (web dashboard and Identium Location Engine)	4.19.1	Hosted by Identium, or 64-bit Linux / Windows server
Works with	–	ID-BGW-02 gateways · ID-AOA-GW25 anchors · F529 / F530 readers

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Creating identities for all

The Identium RTLS platform is the web software that turns signals from Identium BLE gateways, AoA anchors and active RFID readers into live positions on your floor plans. Its Identium Location Engine works out where each tag is: to the room with BLE gateways, and to well under a metre with AoA anchors. This manual explains how the system fits together, how to install it (hosted by Identium or on your own server), and how to set up floors, gateways, anchors, tags and zones, follow tags live, handle alerts, run reports, check AoA accuracy and solve common problems.

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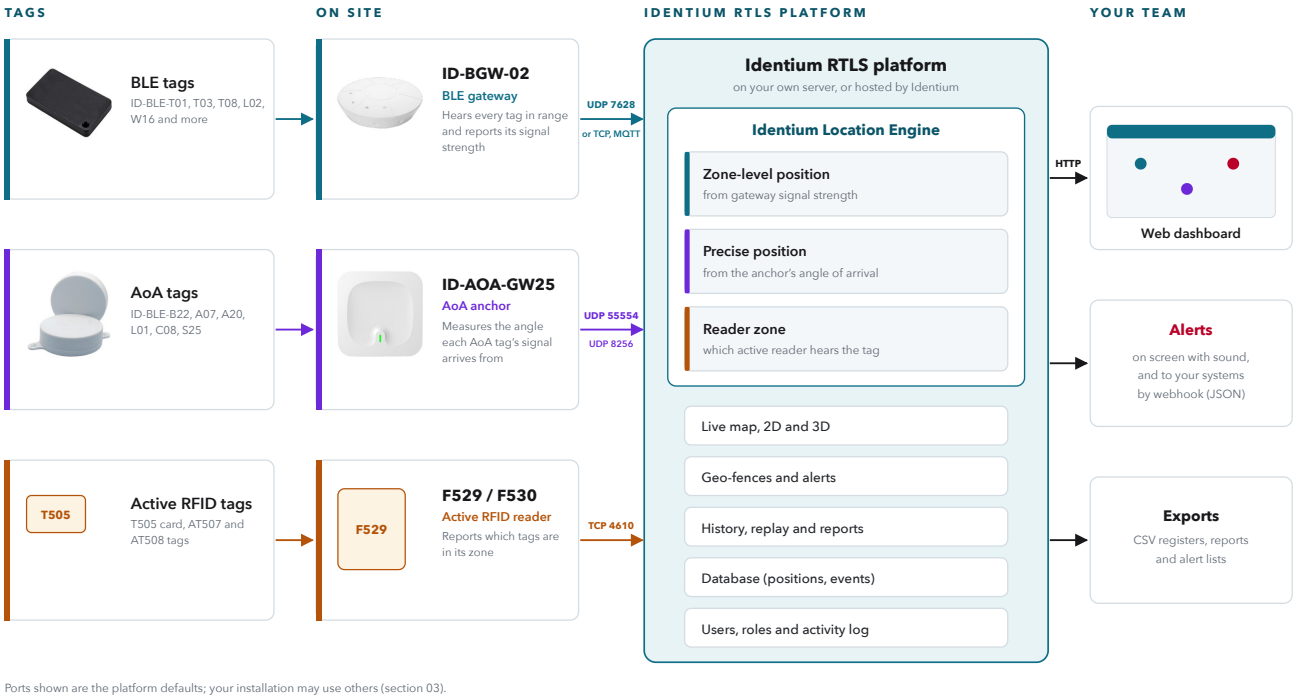
01/ How the System Works

Identium tags send short radio signals. Gateways, anchors and readers on your site pick those signals up and pass them to the **Identium RTLS platform**. Its **Identium Location Engine** turns them into a position on your floor plan, checks every position against the zones you have drawn and raises alerts. You watch it all in a web browser.



The Identium RTLS platform: tags, the devices on site, the platform and the people who use it.

Three ways to locate a tag

BLE gateways: zone level

Each **ID-BGW-02** gateway reports how strongly it hears every Bluetooth tag nearby. The Location Engine combines the reports into a position good to a few metres, typically 3–5 m: enough to say which room or area a tag is in.

AoA anchors: precise

An **ID-AOA-GW25** anchor on the ceiling measures the angle at which an AoA tag's signal arrives. With the anchor's height and the tag's height this gives a sub-metre position under the anchor (section 10 gives the measured figures).

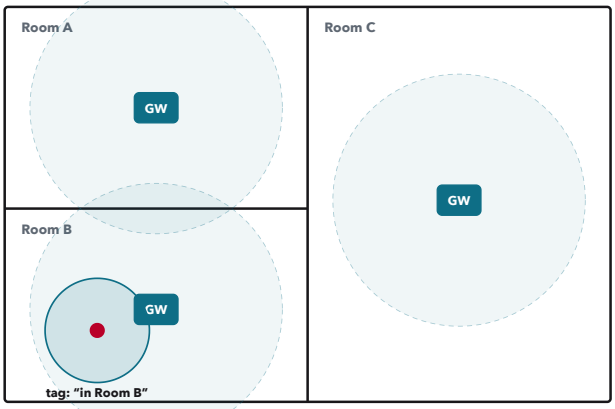
Active RFID readers: reader zones

An **F529** or **F530** reader reports which active tags it hears. The platform shows which reader zone each tag is in, who is present and when each tag was last seen (section 14).

One platform

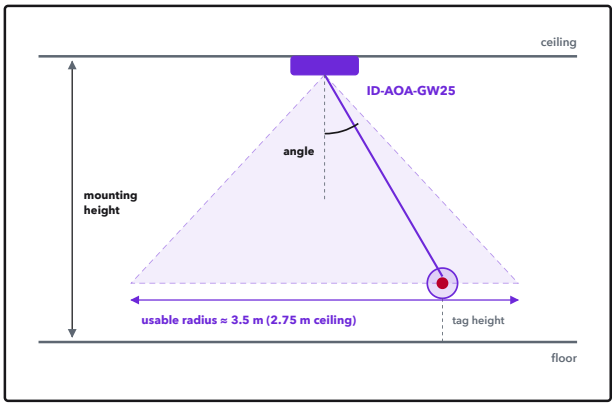
All three share the same sign-in, users, database and live updates. BLE and AoA tags appear together on the Indoor Tracking map; active RFID tags have their own pages.

BLE gateways: zone / room level



Each ID-BGW-02 reports how strongly it hears the tag. The engine turns that into the nearest room or area and draws a **circle of uncertainty** of a few metres. Plan **one gateway for each room or zone** you need to tell apart, and two or more in a large open area.

AoA anchors: precise position



The ID-AOA-GW25 measures the **angle** a tag's signal arrives from. From the anchor's height and the tag's height the engine works out the point on the floor: **sub-metre** in good conditions. Use AoA-capable tags, worn or fixed facing the ceiling.

Zone-level BLE (left) and precise AoA (right). Plan BLE gateways per room; plan AoA anchors per working area.

Choosing hardware

You need to know …	Use	Tags
which room, area or bay an asset or person is in	ID-BGW-02 BLE gateways, one per room or zone	BLE tags such as ID-BLE-T01, T03, T08, L02, W16, and work cards
where in the room, to well under a metre	ID-AOA-GW25 AoA anchors on the ceiling	AoA tags: ID-BLE-B22, A07, A20, L01, C08 (work card), S25 (slim card), X11
which large outdoor or yard zone a person or vehicle is in	F529 / F530 active RFID readers	T505 card, AT507 and AT508 tags

Models are those listed on www.indiarfidstore.com. AoA positioning needs AoA-capable tags; any Identium BLE tag can be tracked at zone level.

02/ What You Need

Whether Identium hosts the platform for you or you run it on your own server (section 03), the site needs the following.

Item	Requirement
Web browser	A current desktop browser. The 3D view needs a computer with graphics acceleration (WebGL).
Floor plans	The real size of each floor in metres (width × depth) and, if you have one, a plan image (PNG, JPG, WEBP or GIF, up to 5 MB). You can also draw the plan in the platform.
Site network	Ethernet (PoE), Wi-Fi or 4G for the ID-BGW-02 gateways (4G on the -PC and -MC versions); wired Ethernet for the ID-AOA-GW25 anchors, powered by PoE or DC. Every gateway and anchor needs a path to the platform (section 03).
Your own server (option B only)	64-bit (x64) Linux or Windows, always on, with Node.js 18 or newer and MySQL 8 or newer. AoA positioning runs only on x64 Linux or Windows. Use a fixed IP address that your gateways, anchors and readers can reach.

Network ports

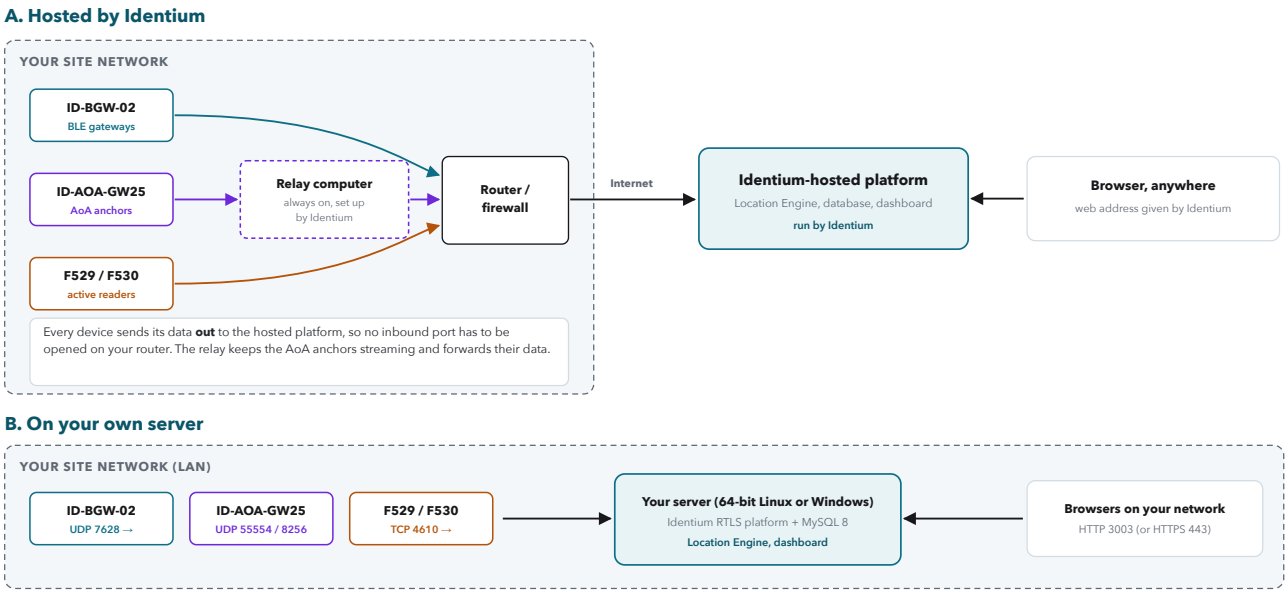
These are the platform's default ports. Open the ones you use on the server's firewall, inbound unless the table says otherwise.

Port	From → to	Used for
TCP 3003	browsers → server	Web dashboard and its live updates (put HTTPS 443 in front of it if users connect over the internet)
UDP 7628	ID-BGW-02 gateways → server	Gateway reports in JSON (the recommended setting). TCP and MQTT are also possible: ask Identium.
UDP 55554	ID-AOA-GW25 anchors → server	The anchor's angle data
UDP 8256	server ⇄ anchors	Keep-alive that keeps each anchor streaming; the server must be able to reach every anchor's IP address
UDP 44443	site network only	Anchor discovery on the local network
TCP 4610	F529 / F530 readers → server	Active RFID reader data
TCP 4611	gateways → server	Optional line-by-line gateway stream (only if Identium sets it up)

CAUTION

On Linux the platform opens its TCP ports with the ufw firewall when it starts, but **UDP 7628 is not opened automatically**: open it yourself (`ufw allow 7628/udp`). On Windows, add an inbound firewall rule for every port you use.

03/ Installation Options



A: Identium runs the platform for you. B: you run it on a server on your own network.

A. Hosted by Identium

Identium runs the platform and its database, and gives you a web address and your first administrator sign-in. On site:

1. Mount and power the ID-BGW-02 gateways, ID-AOA-GW25 anchors and any F529 / F530 readers, and connect them to your network.
2. Make sure the network gives them internet access. Every device sends its data out to the hosted platform, so you do not need to open any inbound port on your router.
3. For AoA anchors, Identium sets up a small always-on **relay computer** on your network. It keeps the anchors streaming and forwards their data to the hosted platform. Leave it powered on.
4. Identium sets each gateway and anchor to send to the hosted platform before delivery or during commissioning. Then sign in (section 04) and set up floors, devices, tags and zones (sections 06 to 11).

B. On your own server

Identium supplies the platform as a package. Install it on your server as follows; Identium can do this remotely if you prefer.

1. Install **Node.js 18** or newer and **MySQL 8** or newer on the server.
2. Copy the platform package to a folder on the server and open a terminal in that folder.
3. Install and build:
   `npm install`
   `npm --prefix client install`
   `npm --prefix client run build`
4. Create the database: run `schema.sql`, then each file in the `migrations` folder in number order, starting at **002**. On a new database one script may report that a column already exists; that is expected.
5. Copy `.env.example` to `.env` and set the values in the table below.

6. Start the platform with `npm start` and keep it running as a service (for example with pm2 or systemd) so that it starts again after a reboot. Open the firewall ports from section 02.
7. Browse to `http://<server-ip>:3003`, sign in with the administrator account given in Identium's installation notes and **change its password at once** (section 04).

> **CAUTION**
> Never run `migrations/001_clean_slate.sql`: it empties an existing installation. The database scripts create a database called `identium_rfid`; keep `DB_NAME` set to that name.

Settings in the .env file

PORT	Web dashboard port. Default 3003.
DB_HOST, DB_USER, DB_PASS, DB_NAME	The MySQL server and the account the platform uses. `DB_NAME` = `identium_rfid`.
SESSION_SECRET	A long random string. Always set it.
SERVER_IP	The address active RFID readers connect to. Leave blank to detect it; set it when the server is behind NAT.
BLE_GW_UDP_PORT	Port for ID-BGW-02 reports. Default 7628.
AOA_IQ_INGEST	Set to `1` to switch on AoA positioning.
AOA_IQ_TAG_HEIGHT	Height in metres at which your AoA tags usually sit: about 0.75 for tags on desks, about 1.1 for tags worn on the body. Default 1.2.
ALERT_WEBHOOK_URL, ALERT_WEBHOOK_TOKEN	Optional: also send every alert to your own system (section 15).
LOW_BATTERY_PCT, TAG_OFFLINE_MIN	Alert thresholds. Defaults 15 % and 10 minutes.
BLE_DET_RETENTION_DAYS, BLE_HIST_RETENTION_DAYS, BLE_ALERT_RETENTION_DAYS	How long raw readings, position history and acknowledged alerts are kept. Defaults 7, 30 and 90 days.

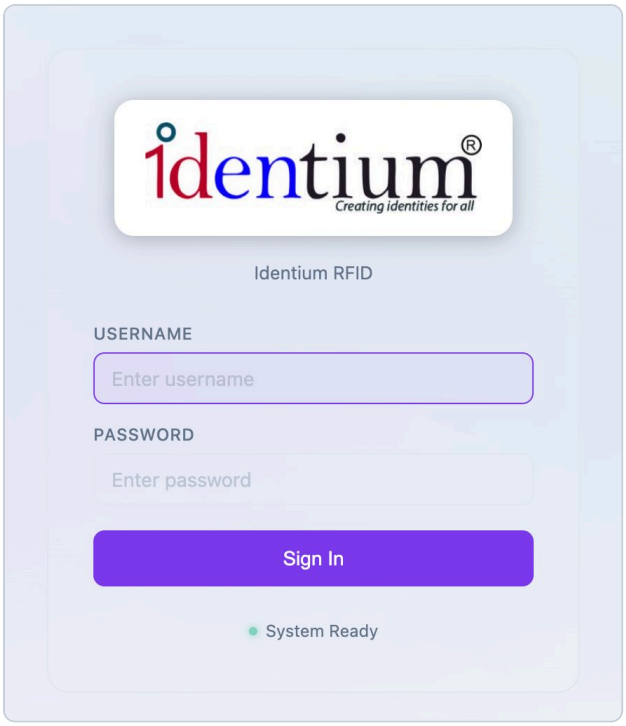
Restart the platform after any change to .env. Keep .env private: it holds your database password.

Point the devices at your server

- **ID-BGW-02 gateways:** in each gateway's settings page, send data in **JSON** over **UDP** to your server's IP address, port **7628**, and switch on the server heartbeat so the link stays up. The ID-BGW-02 User Manual shows each screen.
- **ID-AOA-GW25 anchors:** each anchor sends to one server address, which Identium sets before delivery. Give Identium your server's IP address when you order; if it changes later, contact Identium (the anchor configuration tool is supplied on request). Only one program on the server may use UDP 55554.
- **F529 / F530 readers:** set the reader's upload server to `SERVER_IP` and port 4610 with the Identium Active Reader app (see the F529 User Manual).

To publish the dashboard on the internet, put it behind your web server (for example nginx) with HTTPS. For a sub-path, build the client with `VITE_BASE=/your-path/` and set `BASE_PATH` to the same path.

04/ Signing In and User Roles



The sign-in screen

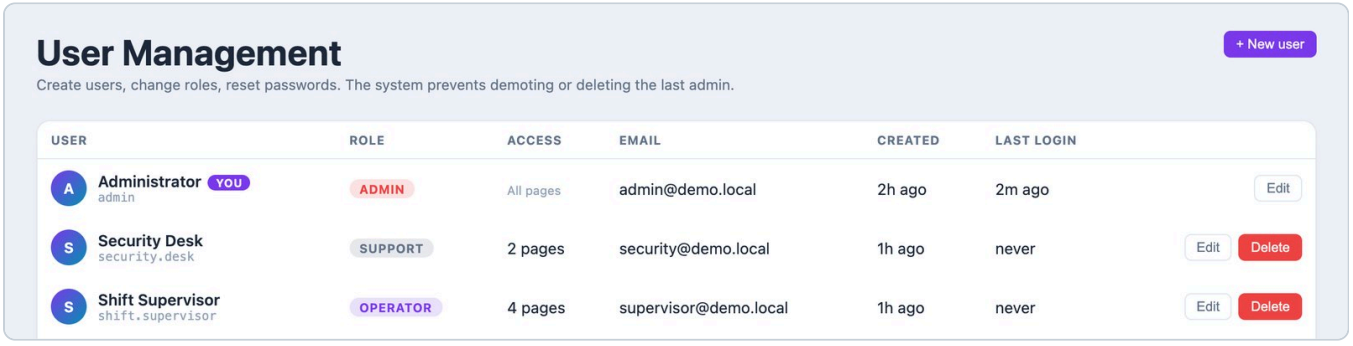
1. Open the platform's web address in your browser.
2. Enter your **user name** and **password**, then click **Sign In**.
3. You stay signed in on that browser for 24 hours. Click **Logout** at the bottom of the menu when you leave a shared computer.

CAUTION

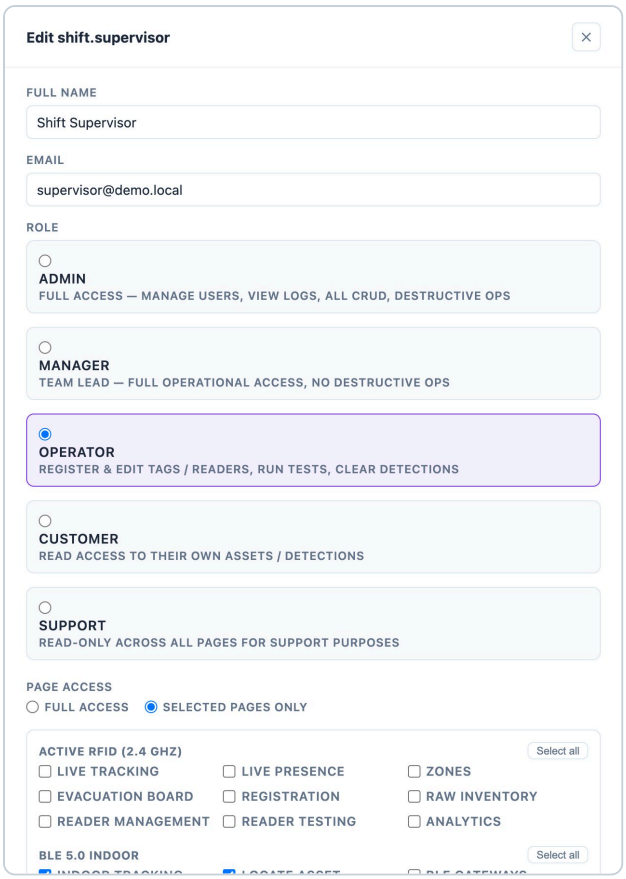
The first administrator account comes with a starting password. Change it the first time you sign in: **User Management → Edit** on your own row.

Add the people who will use it

Only an **Admin** can open **User Management**, **Activity Logs** and **Settings** (under System & Help in the menu).



User Management: each person's role, how many pages they can open, and their last sign-in.



Editing a user: role and page access

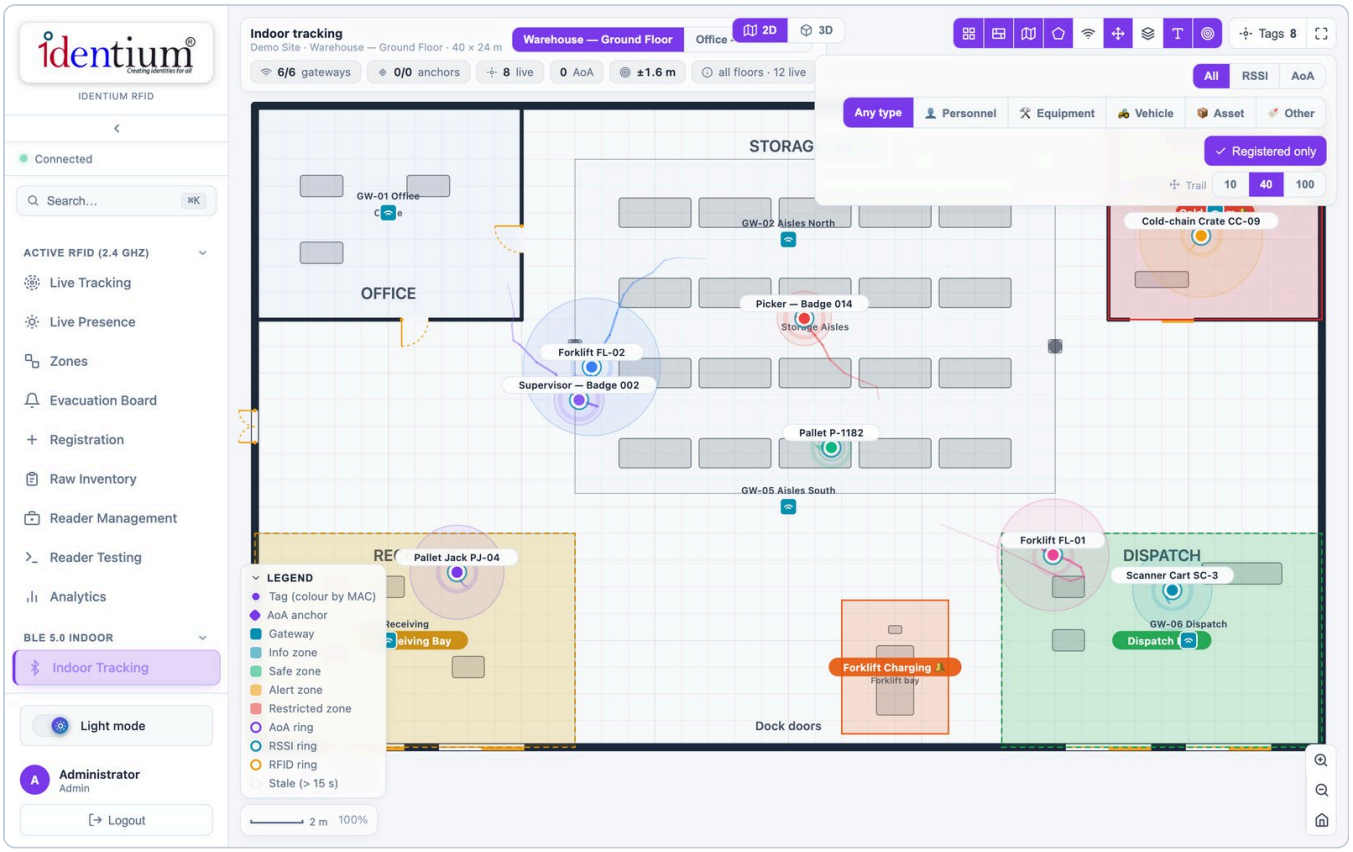
1. Open **User Management** and click **+ New user**, or **Edit** on an existing row.
2. Enter the full name, e-mail, user name and a password (at least 6 characters).
3. Choose a **Role** (table below).
4. Under **Page access** choose **Full access**, or **Selected pages only** and tick the pages this person needs, for example just Indoor Tracking and Alerts for a security desk.
5. Save. To reset a forgotten password, edit the user and type a new one.

Role	Meant for (as described on the screen)
Admin	Full access: manages users, views the activity log and settings, and can delete data
Manager	Team lead: full day-to-day use without the destructive operations
Operator	Registers and edits tags and readers, runs tests, clears detections
Support	Read-only access across the pages, for support staff
Customer	Read access to their own assets; agree its use with Identium before you rely on it

Page access decides which menu pages a person sees. For people who only watch, choose Selected pages only and tick just the pages they need. The platform always keeps at least one Admin.

Activity Logs records every sign-in and every change (who, what, when, from where). **Settings** sets the platform name, company details, accent colour and logo shown in the menu, on the sign-in screen and on exports.

05/ The Dashboard at a Glance

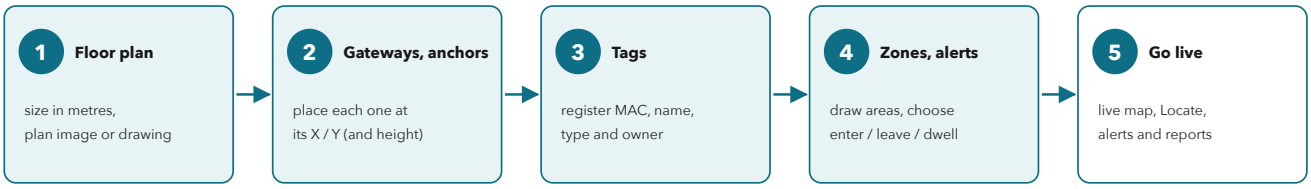


Indoor Tracking with the menu on the left. Demo site: six ID-BGW-02 gateways in a 40 × 24 m warehouse.

The menu on the left has three groups. **BLE 5.0 Indoor** holds everything for BLE gateways and AoA anchors; **Active RFID (2.4 GHz)** holds the reader pages; **System & Help** holds the user guide and the admin pages. Collapse the menu with the arrow under the logo, search any page with **⌘K / Ctrl+K**, and switch between light and dark mode at the bottom.

BLE 5.0 Indoor page	What it is for	Section
Indoor Tracking	Live map of every tag, 2D or 3D, with zones, trails and tag details	10
Locate Asset	Search for any tag and see where it is now or was last seen; 24-hour history	10
BLE Gateways	Gateway status, placement on the plan and calibration	07
AoA Anchors	Anchor status, position, height and direction	08
BLE Beacons	The tag register: add, edit, import and export tags	09
Floor Plans	Floors, their size, plan images and the plan editor	06
Geo-fence Zones	Draw zones and choose their alerts	11
Alerts	Zone, dwell, SOS, battery and offline alerts; acknowledge them	11
Reports	Zone visits, dwell time and tag activity, with CSV export	12
Maintenance	How much data is stored and how long it is kept	12

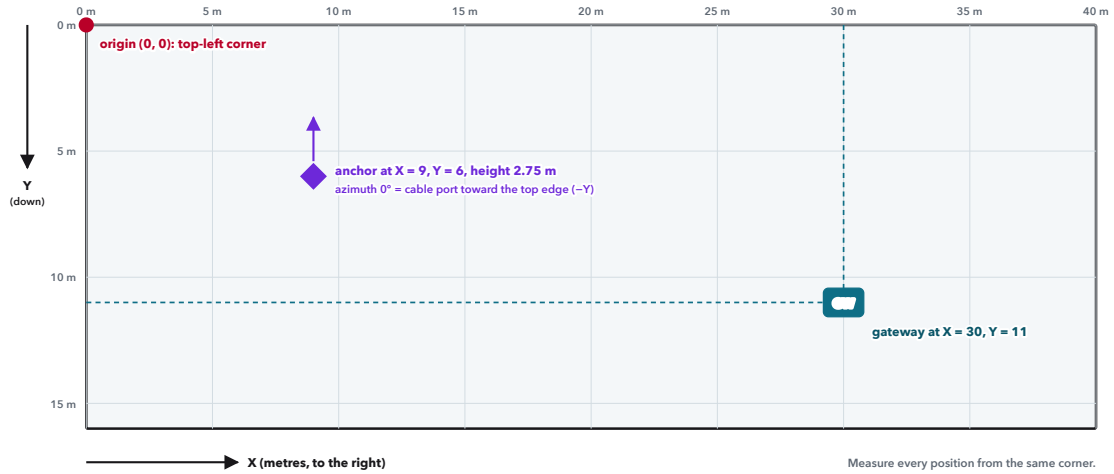
Setting up a new site



Set a site up in this order.

06/ Floor Plans

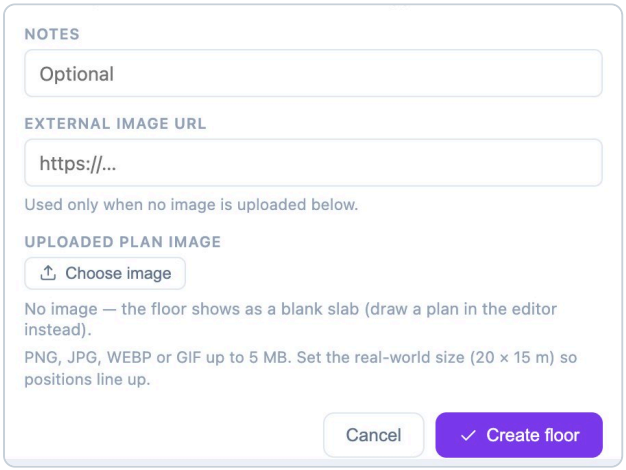
Every floor is a rectangle measured in metres. Positions of gateways, anchors, tags and zones are all given in metres from the floor's **top-left corner**: X to the right, Y down the plan.



Floor coordinates. Measure every position from the same corner of the building.

Add a floor

1. Open **Floor Plans** and click **New floor**.
2. Enter a **Name** (for example Ground floor) and the **Facility** (building or site).
3. Enter the floor's real **Width** and **Height** (depth) in metres, and the **Ceiling** height. The ceiling is used by the 3D view and for anchor heights.
4. Leave **+Y points up on the plan** unticked for a normal plan image or drawing.
5. Click **Create floor**.



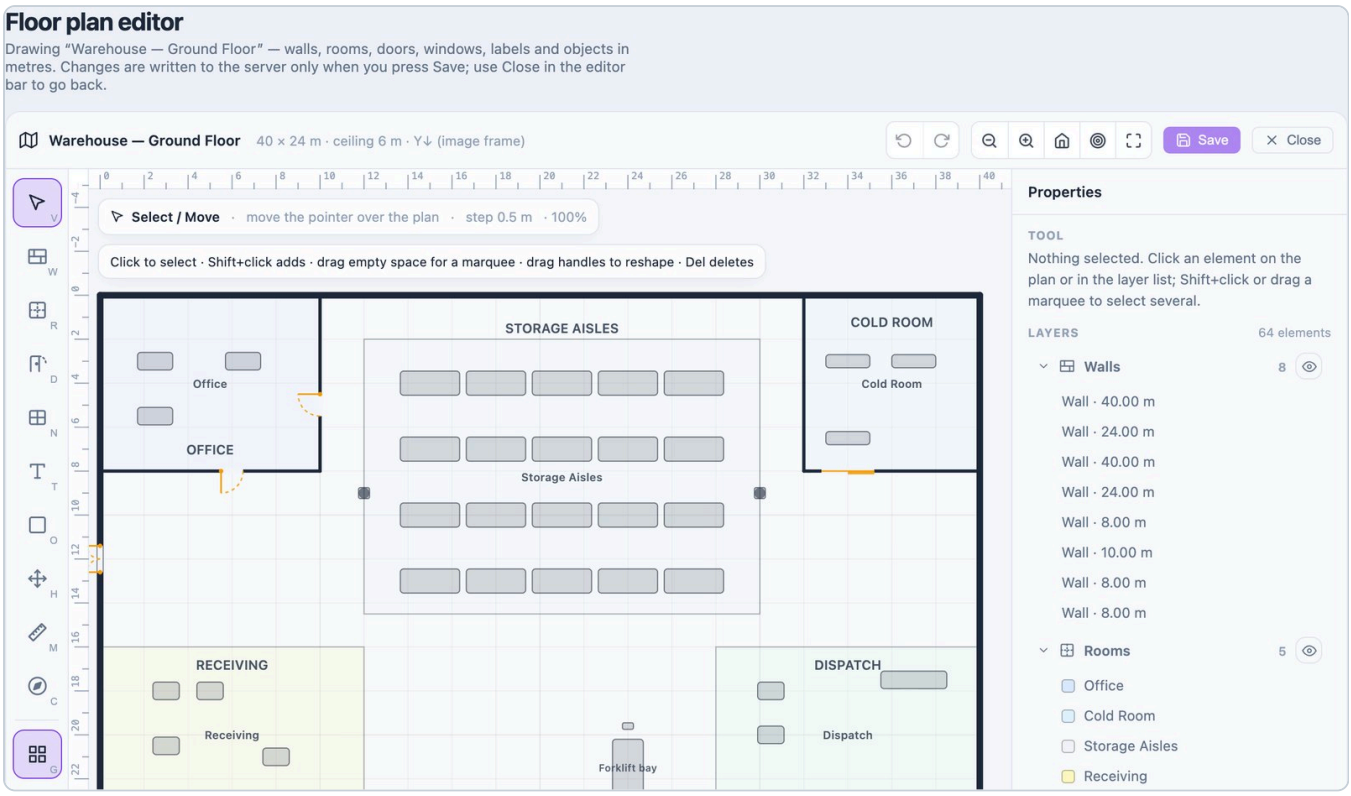
Adding a plan image to a floor

Use your own plan image

1. Under **Uploaded plan image**, click **Choose image** and pick a PNG, JPG, WEBP or GIF of up to 5 MB.
2. The image is stretched over the floor's width and height, so crop it to the building outline first, or correct the scale later in the editor.
3. If the image already sits on a web server you can enter its address under **External image URL** instead.

Draw or correct the plan in the editor

Click **Open editor** on a floor. Everything you draw is in metres and shows on every map and in the 3D view. Nothing is stored until you click **Save**; **Close** returns to the floor list.

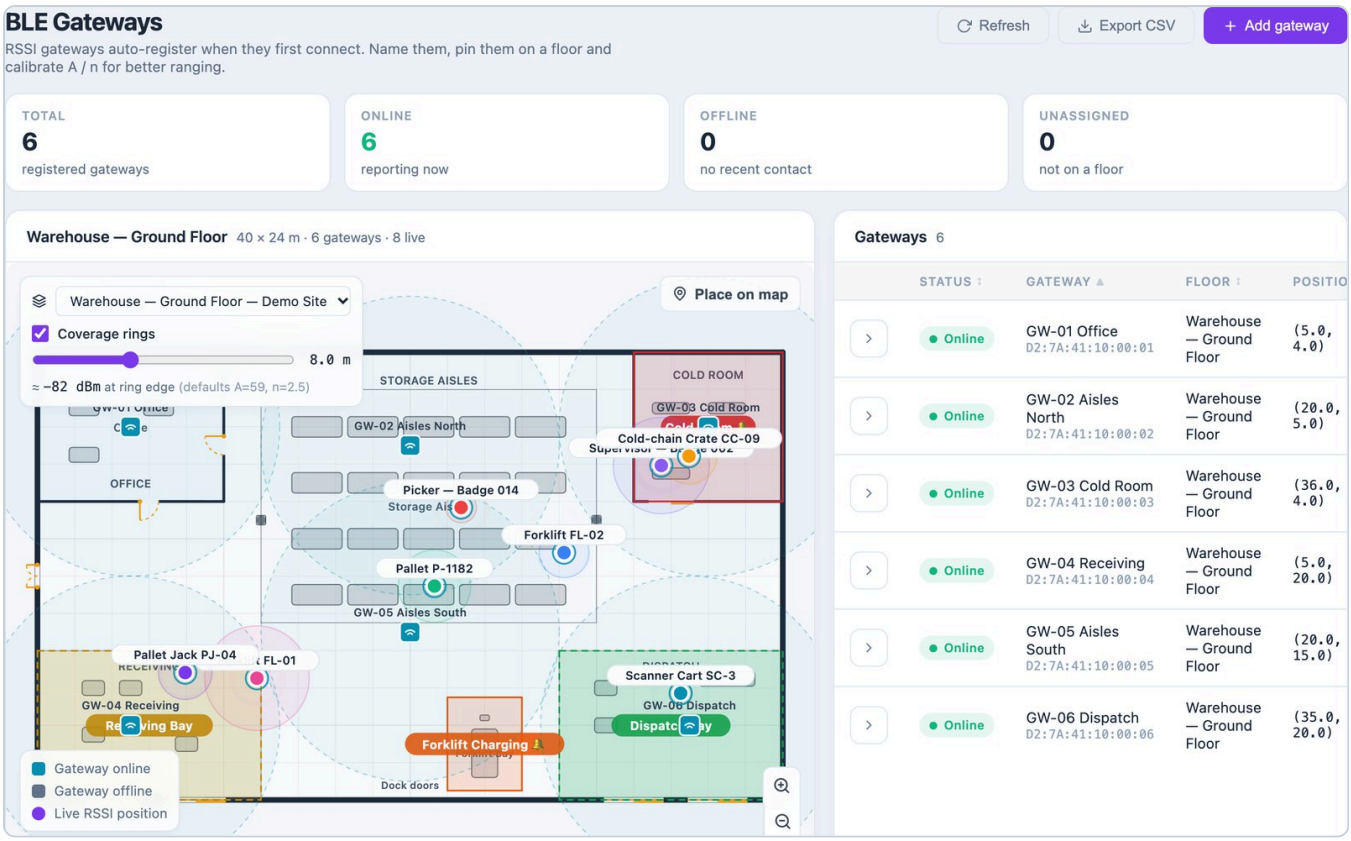


The floor plan editor: tools along the top, the plan in the middle, properties and layers on the right.

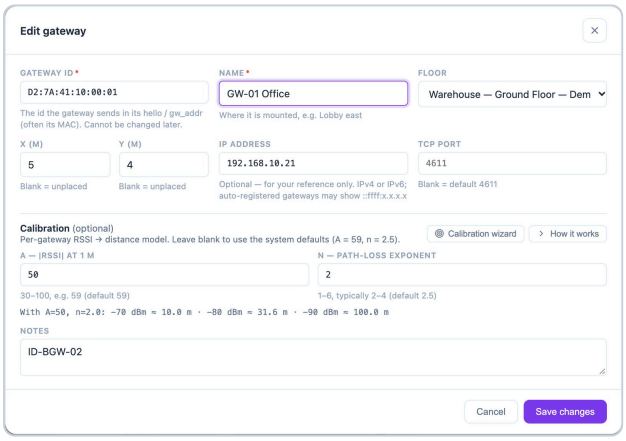
Tool (key)	What it does
Select / Move (V)	Click to select, Shift+click to add, drag a box to select several; drag handles to reshape; Del deletes
Wall (W)	Click points along a wall; Enter or double-click ends it. Shift keeps 45° angles, A locks to straight lines
Room (R)	Click the corners of a room; click the first point again or press Enter to close it
Door (D) and Window (N)	Click on or near a wall; the door or window lines up with it. F flips a door's swing
Label (T) and Object (O)	Place text, or furniture and equipment such as racks, desks, pallets and pillars
Measure (M)	Click two points to read the distance
Calibrate scale (C)	Click two points of a known distance on the plan image, such as the ends of an outside wall, and type the real distance: the floor is rescaled to match
Pan (H)	Drag to move around; use the mouse wheel to zoom

07/ Adding BLE Gateways

Once an ID-BGW-02 gateway is sending to the platform (section 03) it **appears by itself** on the **BLE Gateways** page, online, but not yet on any floor. It is listed under its **Bluetooth** MAC address, which is not the same as its Wi-Fi MAC.



BLE Gateways: the counts at the top, the floor map with coverage rings, and the gateway list.



Edit gateway

Name and place each gateway

1. Click **Edit** (pencil) on the gateway's row.
2. Give it a **Name** that says where it is, for example GW-03 Cold Room.
3. Choose its **Floor** and enter its **X** and **Y** in metres (section 06). Or click **Place on map** and click the gateway's spot on the plan.
4. Leave **Calibration** blank for now and click **Save changes**.

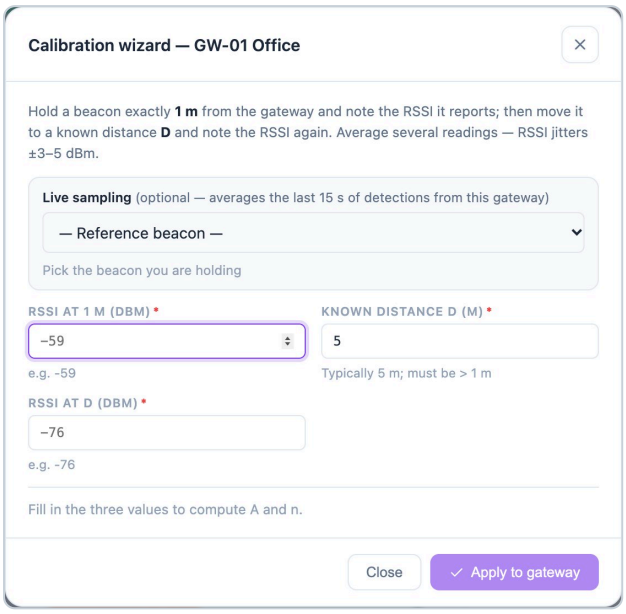
CAUTION

Place **every** gateway before you judge positions. A gateway left with no position is treated as if it were at the corner X 0, Y 0, which pulls tags towards that corner.

Where to put gateways

- Plan **one gateway for each room or zone** you need to tell apart, and at least two in a large open area, so that every spot is heard by two or more gateways.
- Mount gateways about **2.2 m above the floor**: the Location Engine assumes this height.
- Readings weaker than **−75 dBm** are ignored, so a tag far from every gateway gets no position. Tick **Coverage rings** on the map to see how far each gateway reaches.

- A gateway that sends nothing for 90 seconds is shown **offline**.



Calibration wizard

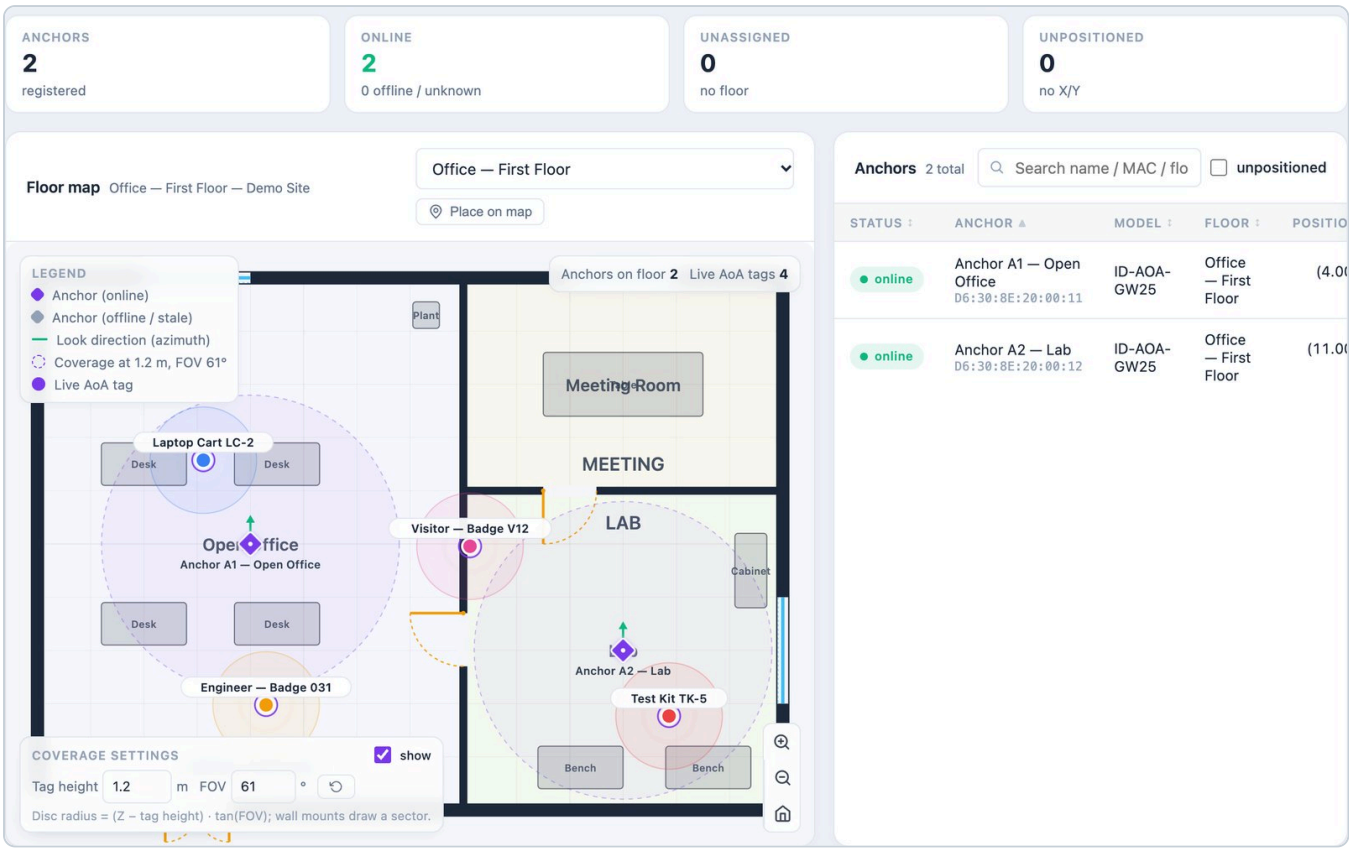
Calibrate a gateway (recommended)

Calibration tells the engine how signal strength falls with distance at your site. Click **Calibration wizard** on a gateway's row:

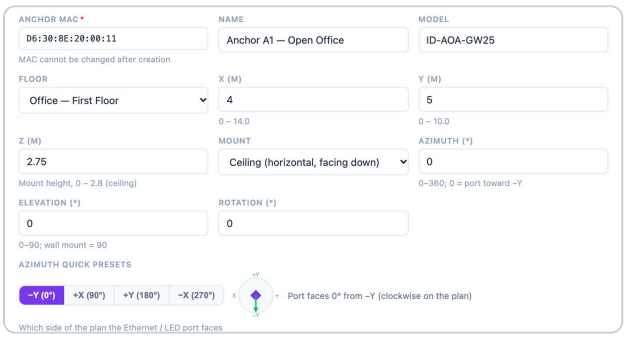
1. Hold a tag exactly **1 m** from the gateway. Pick the tag under **Live sampling**, or type the RSSI shown for it.
2. Move it to a known distance **D**, typically 5 m, and record the RSSI again.
3. Click **Apply to gateway**. The values A (signal at 1 m) and n (how fast it falls) are saved for that gateway.
4. Repeat for each gateway, and again whenever one is moved.

08/ Adding AoA Anchors

Each ID-AOA-GW25 anchor needs its exact position, its height and the direction it faces. The engine combines these with the angle it measures, so an anchor entered in the wrong place or turned the wrong way puts every tag in the wrong place.



AoA Anchors on the AoA floor: two anchors with their look direction (green arrow) and coverage circle, and the anchor list.



Anchor details

1. Open **AoA Anchors** and click **Add anchor**, or **Edit** on an anchor's row.
2. Enter the **Anchor MAC** printed on the anchor, a **Name** and the model (ID-AOA-GW25).
3. Choose the **Floor** and enter **X**, **Y** and **Z** in metres. Z is the anchor's height above the floor.
4. Set **Mount** (ceiling or wall), **Azimuth**, **Elevation** and **Rotation** (table below), then save.

Setting	Meaning
Datum (all 0°)	Anchor flat on the ceiling, facing straight down, with its Ethernet / LED port pointing towards −Y (the top edge of the plan)
Azimuth	How far the anchor is turned from the datum: port towards +X (right) = 90°, towards +Y (bottom edge) = 180°, towards −X (left) = 270°. The **Azimuth quick presets** set these in one click
Elevation	Tilt from horizontal: 0° on the ceiling, 90° for a wall mount facing into the room
Rotation	Only if the anchor is turned in its bracket about its own centre line

Where to put anchors

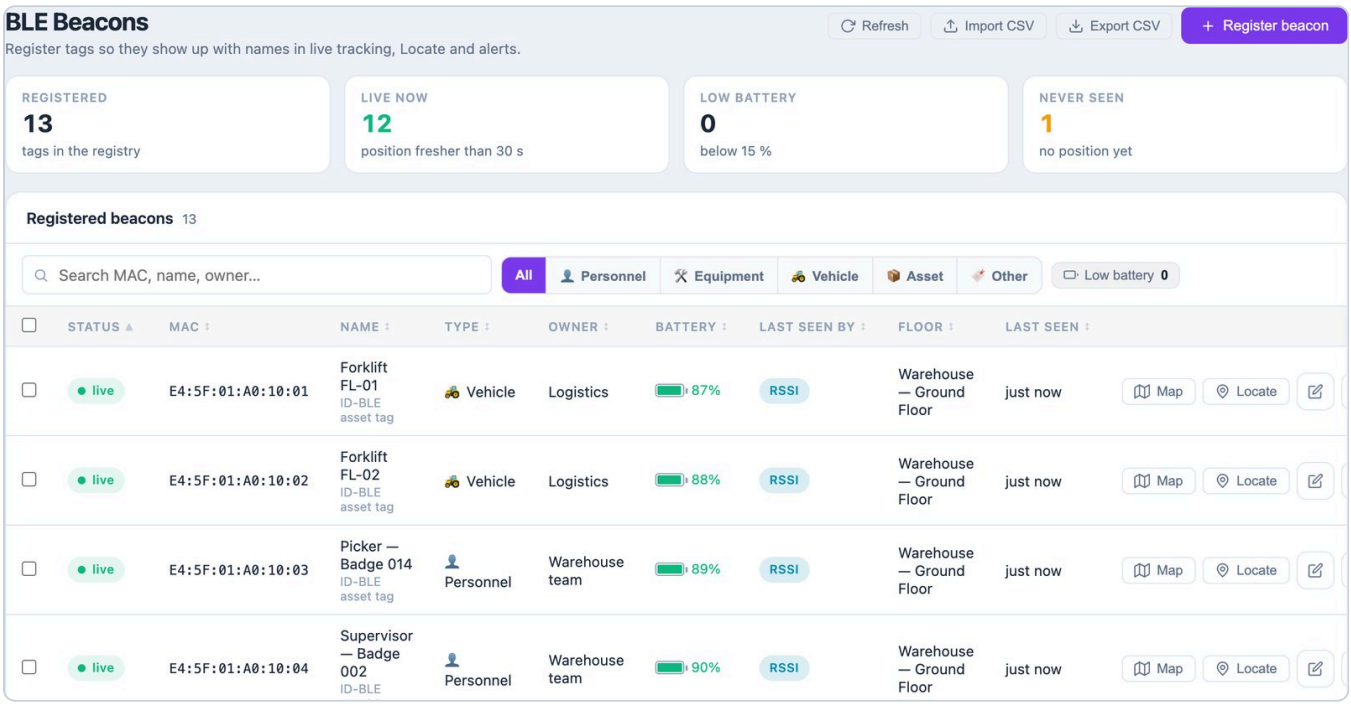
- Mount the anchor flat on the ceiling, over the area where you need precise positions, with a clear view of the tags.

- In Identium's tests a ceiling anchor at 2.75 m gave usable positions out to about **3.5 m** from the point under it. Plan one anchor per working area of about 7 m across, and add anchors for larger areas. The coverage circle on the map shows this area.
- Tags behind a wall or a metal cabinet are seen by reflection and land in the wrong place: give every area its own anchor.
- Add ID-BGW-02 gateways as well if you need zone-level positions outside the anchors' areas.

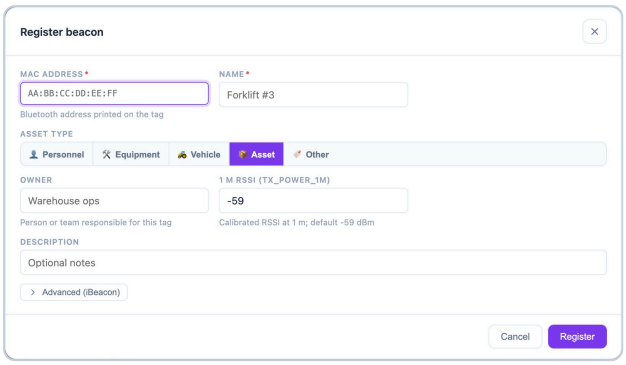
> **NOTE**
> On your own server, AoA positioning must be switched on in `.env` (`AOA_IQ_INGEST=1`, section 03). Set `AOA_IQ_TAG_HEIGHT` to the height at which your tags are usually carried.

09/ Registering Tags, Assets and People

The platform records every tag it hears, but it **positions, names and alerts only on registered tags**. Register each tag with what it is attached to and who is responsible for it.



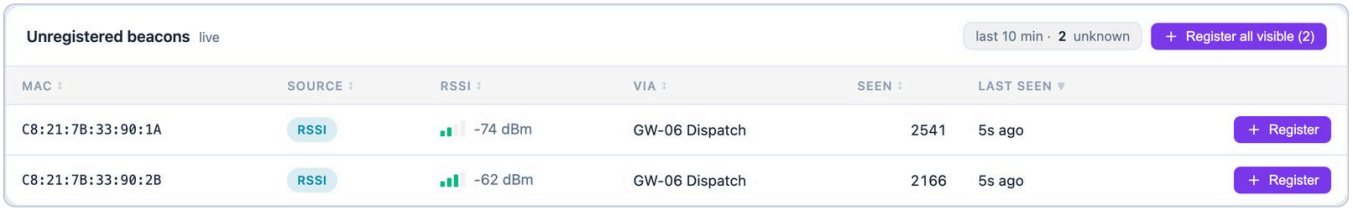
BLE Beacons: the tag register with live status, battery, last gateway and floor.



Register beacon

1. Open **BLE Beacons** and click **Register beacon**.
2. Enter the tag's **MAC address** (printed on the tag) and a **Name**, for example Forklift FL-01 or the badge number.
3. Choose the **Asset type**: Personnel, Equipment, Vehicle, Asset or Other. The map and the filters use it.
4. Enter the **Owner** (person or team) and, if you like, a description.
5. Leave **1 m RSSI** at −59 unless Identium gives you a measured value, then save. The tag starts getting positions straight away.

Register tags the platform has already heard

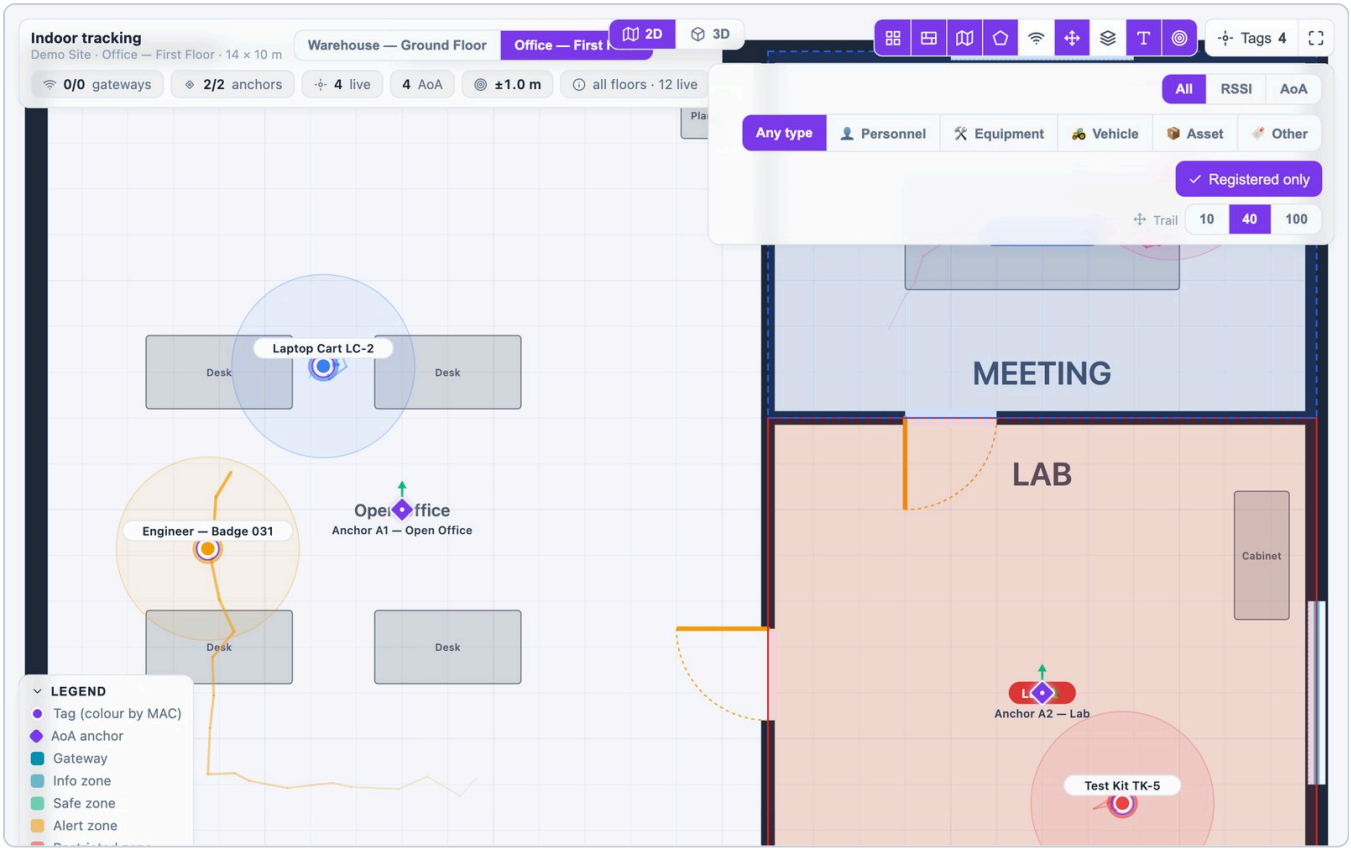


Unregistered beacons heard in the last 10 minutes, with the gateway that heard each one.

- Switch the new tag on near a gateway. Within seconds it appears under **Unregistered beacons**, with its signal and the gateway that hears it.
- Click **Register** on its row to fill in the form with its MAC, or **Register all visible** to add every tag in the list.
- For many tags at once use **Import CSV**; **Export CSV** downloads the register for a spreadsheet.
- The counters at the top show tags **Live now** (a position in the last 30 s), **Low battery** (below 15 %, for tags that report their battery) and **Never seen**.

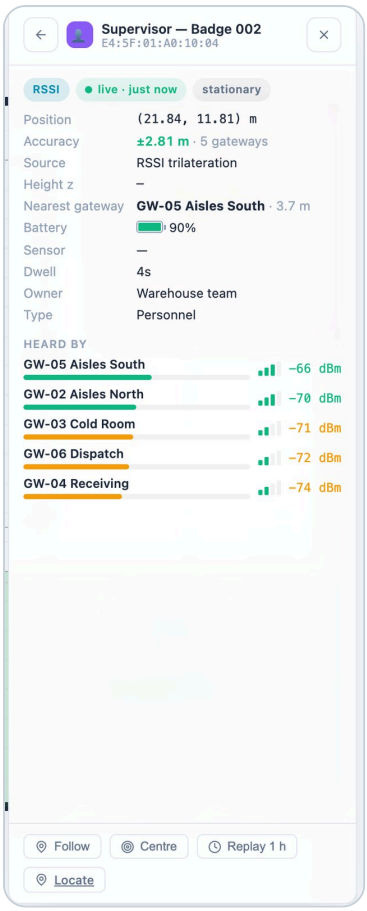
10/ Live Map and Tracking

Indoor Tracking shows every registered tag on the floor plan, updated live. Choose the floor with the buttons at the top; the strip under the title counts the gateways and anchors online, live tags and the typical accuracy on this floor.



An AoA floor: anchors (purple diamonds with their look direction), AoA tags with small accuracy circles, and a restricted zone (Lab).

Control	What it does
2D / 3D	Switch between the plan and a 3D model of the floor. In 3D: drag to orbit, right-drag to pan, wheel to zoom
Layer buttons	Grid, drawn plan, floor image, zones, coverage rings, movement trails, heat map (last hour), labels and accuracy circles
All / RSSI / AoA	Show all tags, only zone-level (gateway) tags, or only AoA tags
Type and Registered only	Show one asset type; untick Registered only to see every tag heard
Trail 10 / 40 / 100	Number of recent points drawn behind each tag
Tags	Opens the list of tags on this floor, sortable by name, last seen or battery
Fullscreen (F)	Use the whole screen, for example on a control-room display



Tag details

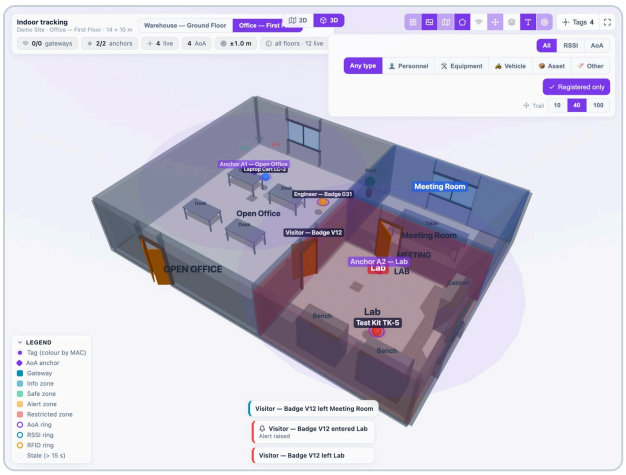
Look at one tag

Click a tag on the map or in the **Tags** list. The panel shows its position, accuracy, source (RSSI or AoA), nearest gateway or anchor, battery, how long it has been still (**Dwell**), owner and type. For a gateway tag, **Heard by** lists every gateway that hears it with its signal.

- **Follow** keeps the map centred on the tag; **Centre** centres it once.
- **Replay 1 h** plays back the last hour of its movement.
- **Locate** opens it on the Locate Asset page.
- A tag not heard for 15 seconds is drawn faded (stale).

How accurate is it?

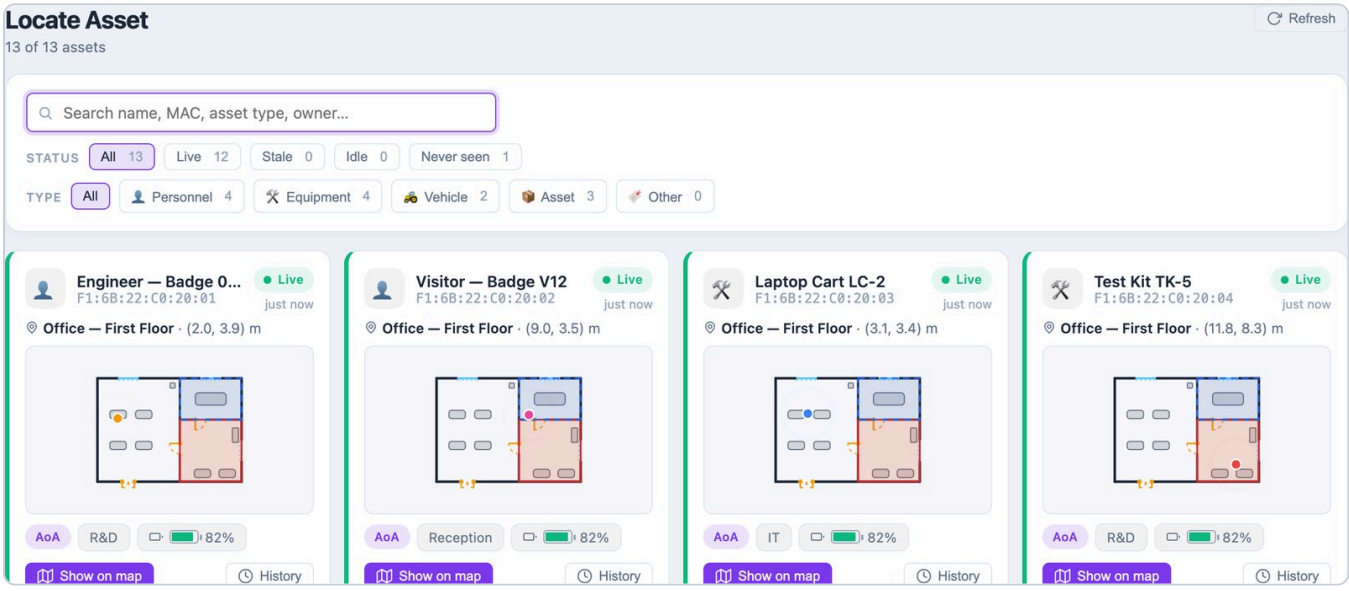
	BLE gateways (RSSI)	AoA anchors
Typical result	The room or area; a few metres, typically 3–5 m	Sub-metre. The ID-AOA-GW25 is rated 0.1–1 m with AoA-capable Identium tags, depending on mounting height and layout
Identium's measurements	With gateways far apart, the dot often sits on the nearest gateway: that is the zone-level result	One ceiling anchor at 2.75 m: face-up tags within about 3.5 m read within 0.25–0.6 m; the same tags face down read 0.9–1.6 m
What helps	More gateways, placed in every room; calibration (section 07)	Tags facing the ceiling; correct anchor position, height and azimuth (section 13); tag height setting



The same AoA floor in 3D

Click **3D** to see the floor as a model: walls, doors, windows and furniture from the floor plan, zones as coloured volumes, anchors on the ceiling with their coverage, and every tag at its height. Drag to turn the view, right-drag to move it and use the mouse wheel to zoom. Zone pop-ups (for example a tag entering the Lab) appear at the bottom of the map.

Find an asset: Locate Asset



Locate Asset: search by name, MAC, type or owner; each card shows the floor, position and how fresh it is.

Type part of a name, MAC address, asset type or owner, or filter by status and type. Each card shows where the tag is now or was last seen: **Live** means a position in the last 30 seconds, **Stale** up to 10 minutes, **Idle** older than that. Click **Show on map** to open it on Indoor Tracking, or **History** for its last 24 hours.

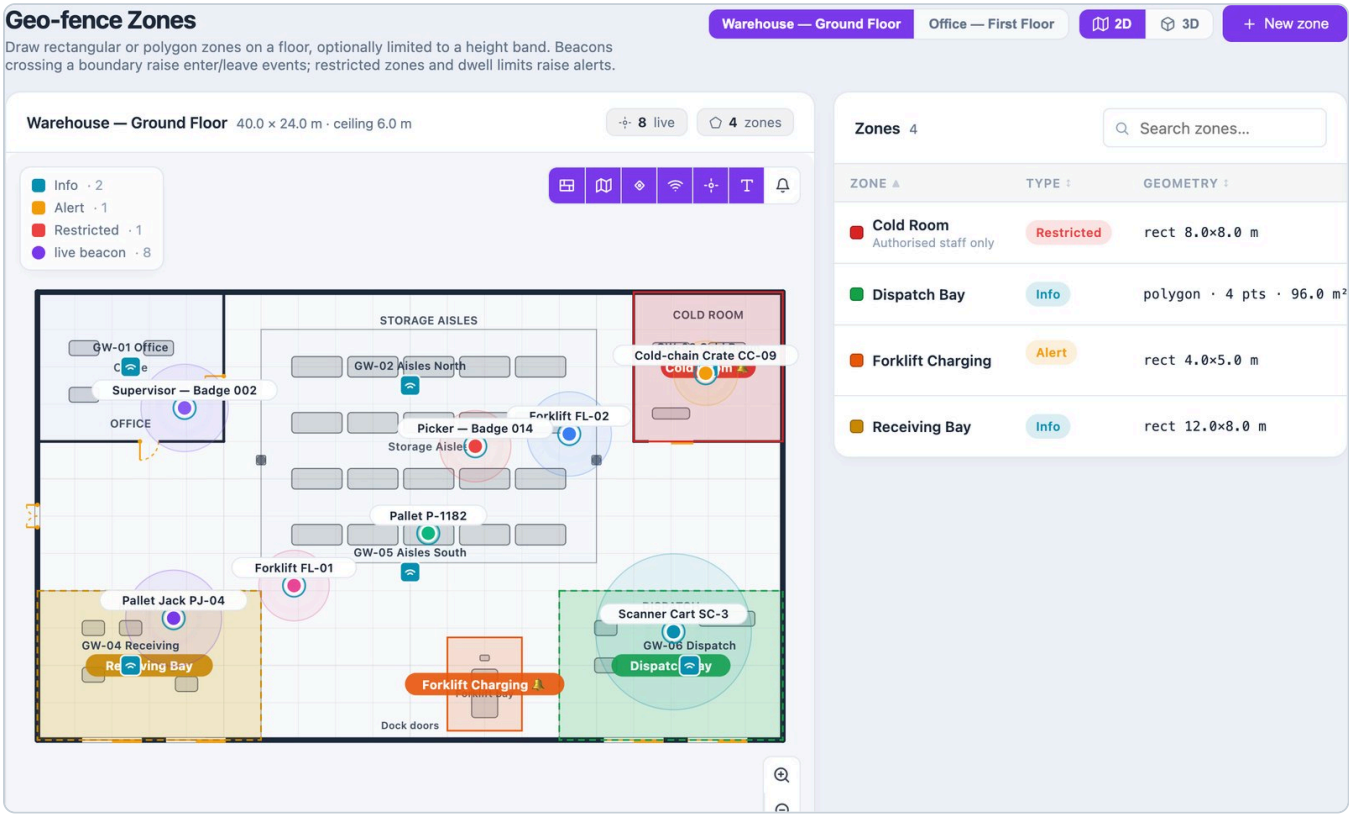


History: play back the last 24 hours

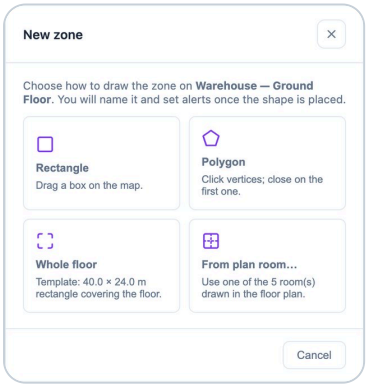
The **History** window replays a tag's path over the last 24 hours. Drag the time slider or press play at 1×, 10×, 60× or 300× speed; the panel shows the position, accuracy and source at each moment.

11 / Geo-fence Zones and Alerts

A zone is an area of a floor: a rectangle or any polygon. The platform logs every time a tag enters or leaves it, counts who is inside, and can raise an alert.

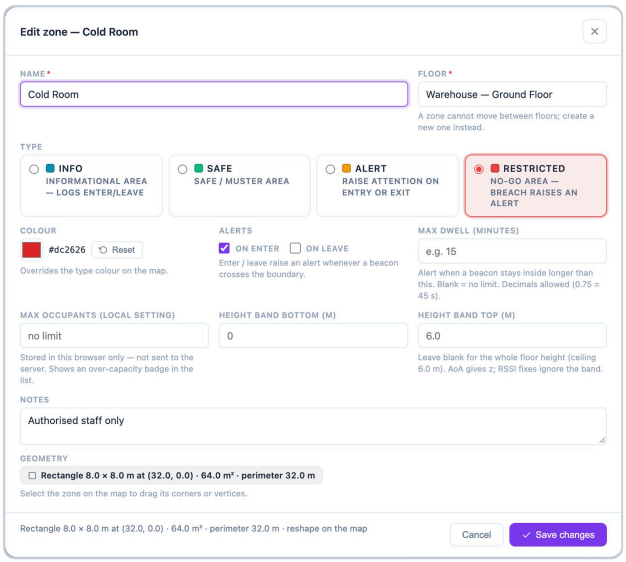


Geo-fence Zones: the zones on the plan and the zone list with type, shape and alert settings.



Choose how to draw a zone

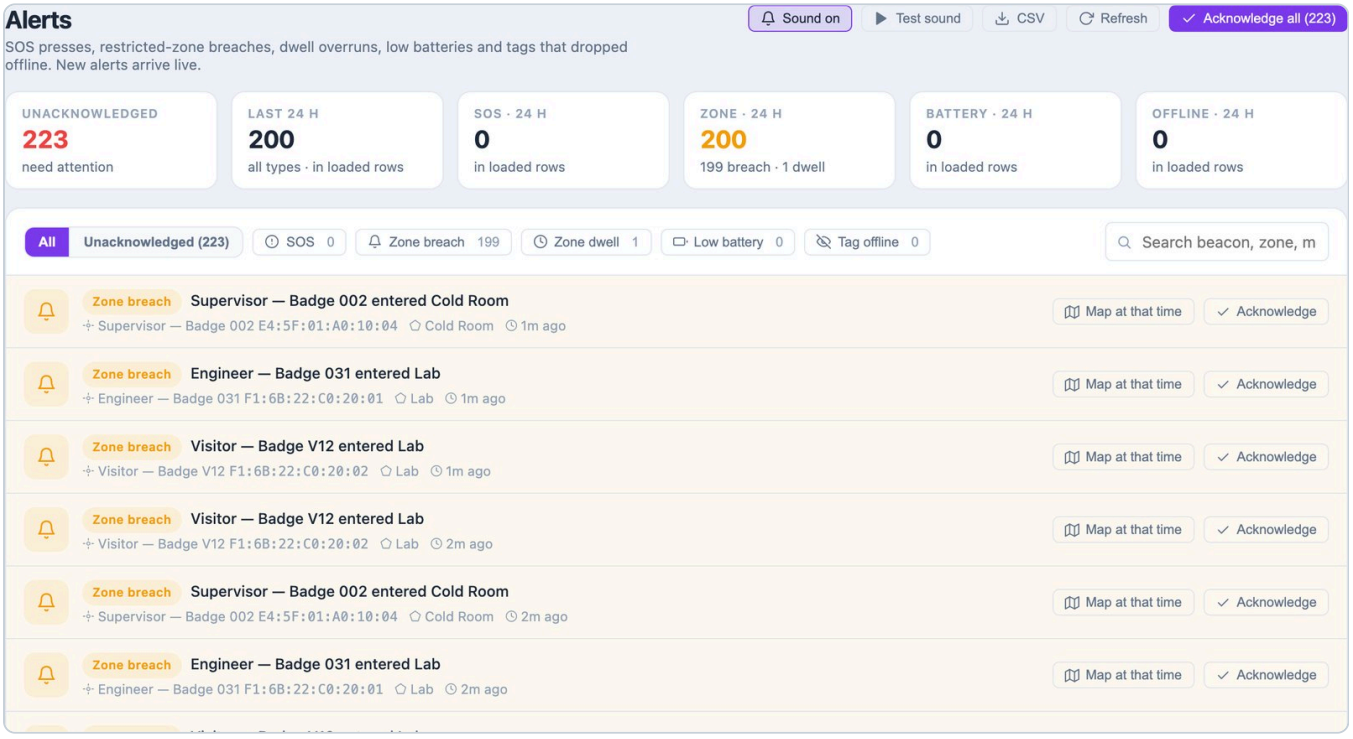
1. Open **Geo-fence Zones**, choose the floor and click **New zone**.
2. Choose **Rectangle** (drag a box), **Polygon** (click the corners, then click the first one again), **Whole floor**, or **From plan room** to reuse a room drawn in the plan.
3. Fill in the zone's details (below) and save. To change a zone later, click **Edit** on its row, or select it on the map and drag its corners.



Zone details

Setting	Use
Type	**Info**: logs enter and leave. **Safe**: a safe or assembly area. **Alert**: draws attention on entry or exit. **Restricted**: a no-go area; entry raises an alert
Alerts	Tick **On enter** and / or **On leave** to raise an alert each time a tag crosses the boundary
Max dwell	Raise one alert when a tag stays inside longer than this many minutes (0.75 = 45 s)
Height band	Bottom and top height in metres. Applies to AoA positions only, for example to tell a mezzanine from the floor below
Colour, notes	How the zone looks on the map, and a note for colleagues

Alerts



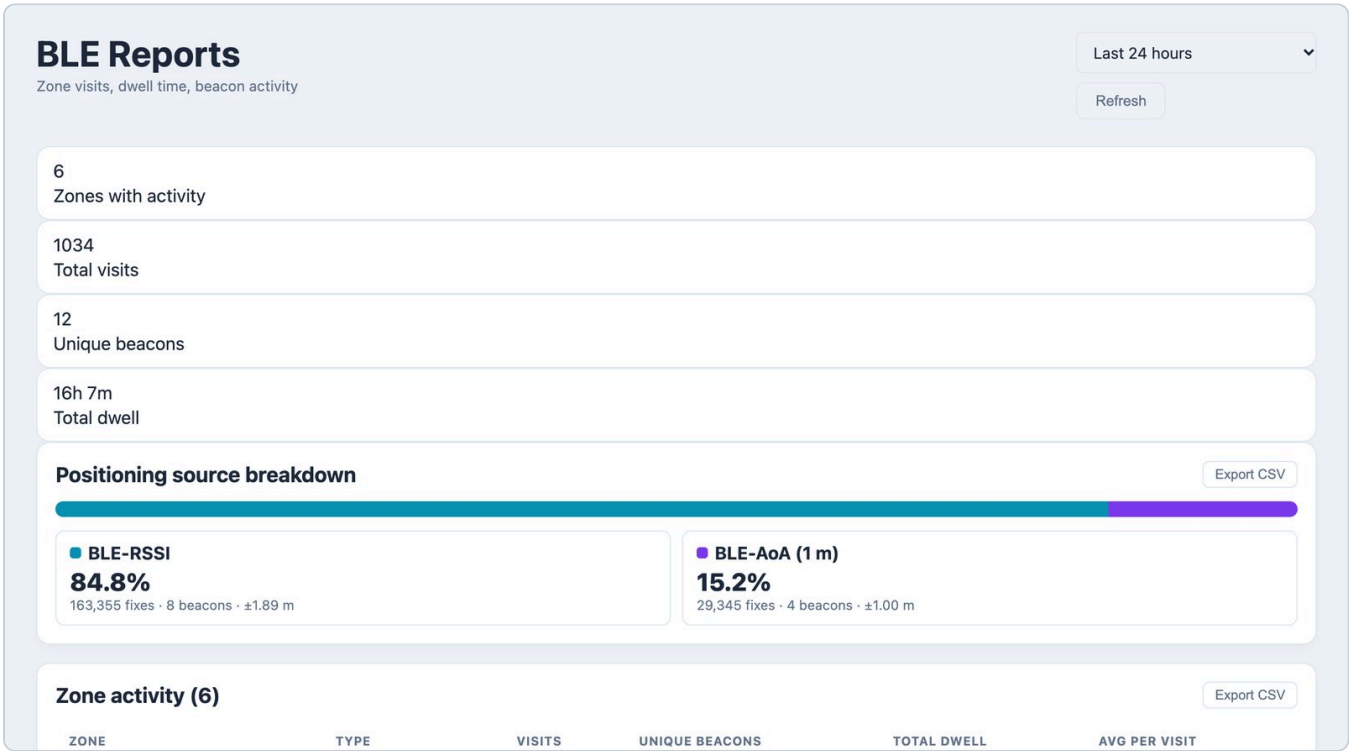
Alerts: counters for the last 24 hours, filters by type, and each alert with Map at that time and Acknowledge.

Alert	Raised when
Zone breach	A tag enters or leaves a zone set to alert on enter or on leave
Zone dwell	A tag stays in a zone longer than its max dwell (once per visit)
Tag offline	A registered tag has had no position for 10 minutes (the default)
Low battery	A tag that reports its battery level drops below 15 % (the default)
SOS	The SOS button is pressed on a tag that has one. Identium confirms during commissioning which of your tag models report SOS to the platform

Repeats of the same alert for the same tag and zone are held back for 60 seconds.

1. New alerts appear at once on the **Alerts** page, with a sound (switch it with **Sound on**; **Test sound** checks your speakers), and as a pop-up on the live map.
2. Filter by type, or show only **Unacknowledged** ones. Click **Map at that time** to see where everyone was.
3. Click **Acknowledge** when the alert has been dealt with, or **Acknowledge all**. Acknowledged alerts are kept for 90 days by default.
4. Click **CSV** to download the list.

12/ Reports, History and Exports



Reports: activity totals, the share of positions from gateways and from anchors, and zone activity.

1. Open **Reports** and choose the period: last hour, 6 hours, 24 hours or 7 days.
2. **Zone activity** lists, for each zone, the number of visits, the number of different tags, the total time spent inside and the average visit.
3. **Beacon activity** lists each tag with its number of readings, the floors and zones it visited, and when it was first and last seen.
4. **Positioning source breakdown** shows how many positions came from gateways (RSSI) and from anchors (AoA), with their average accuracy.
5. Click **Export CSV** on any table to open it in a spreadsheet.

Everything you can export

Page	Export
Reports	Zone activity, beacon activity and source breakdown (CSV)
Alerts	The alert list (CSV)
BLE Beacons, BLE Gateways, AoA Anchors	The register of tags, gateways or anchors (CSV); tags and anchors can also be imported from CSV
Locate Asset and Indoor Tracking	A tag's 24-hour history and the last hour's replay, on screen
Floor plan editor	The drawn plan as a file, to copy it to another floor or site

How long data is kept

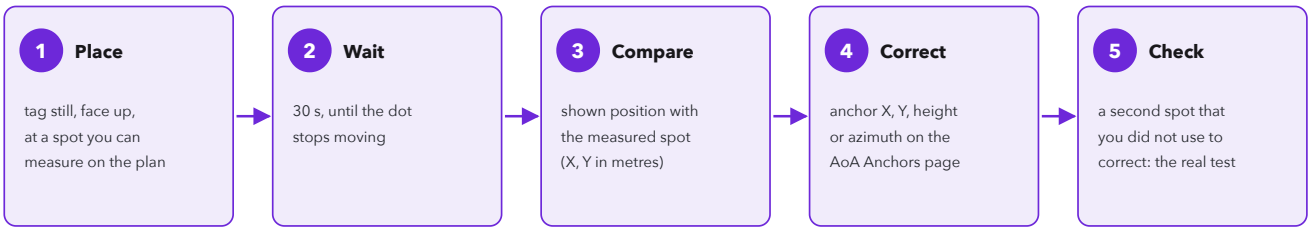


Maintenance: the number of stored rows and how long each kind of data is kept.

Raw readings are kept for **7 days**, position history for **30 days** and acknowledged alerts for **90 days**. Clean-up runs by itself every day; an Admin can also click **Run cleanup now**. Current positions, tags, floors, zones and settings are never deleted by the clean-up. On your own server you can change the periods in `.env` (section 03).

13/ AoA Calibration

Check every anchor after installation, and again whenever an anchor, the floor plan or the furniture changes. The check takes a few minutes per anchor and needs one AoA tag and a tape measure.



The calibration loop. Step 5 is the real test.

1. Choose a spot within about 3.5 m of the point under the anchor that you can measure from the plan's origin corner. Put the tag there, **still and face up**, on something that does not move. Note its X and Y in metres and its height above the floor.
2. Wait 30 seconds, until the tag's dot on **Indoor Tracking** stops moving.
3. Click the tag and compare its **Position** with your measured spot.
4. If it is off, correct the cause on **AoA Anchors**: the anchor's X and Y, its height Z, or its **Azimuth**. A tag that appears mirrored or rotated around the anchor means the azimuth is wrong; a tag consistently too far from or too close to the anchor usually means the anchor height or the tag height setting is wrong.
5. Move the tag to a **second spot** that you did not use, and check again. Only this second check tells you the anchor is right.

Effect you see	Likely cause	Fix
Dot mirrored or turned around the anchor	Azimuth (direction) wrong	Check which way the cable port points and use the azimuth presets
Dot too far out or too close in, all round	Anchor height Z or tag height wrong	Measure Z; set AOA_IQ_TAG_HEIGHT to the real tag height
Dot stops short near the edge of the coverage circle	Tag beyond the anchor's range	Add an anchor for that area
Dot jumps when someone walks past	Tag face down or blocked	Turn the tag to face the ceiling; move it clear of metal
Tag in the next room appears in this room	Signal seen by reflection through a wall	Give that room its own anchor

NOTE

The Location Engine holds a still tag in place and moves its dot only when several readings agree on a new place. A carried tag therefore starts moving on the map within about 10 seconds. If you still see an offset after correcting the anchor, Identium can apply a fine angle correction for that anchor.

14/ Active RFID Readers and Zones

The **Active RFID (2.4 GHz)** pages work with F529 and F530 readers and the T505, AT507 and AT508 tags. A reader tells the platform which tags it hears; the platform reports which **reader zone** each tag is in and when it was last heard.

Page	What you do there
Reader Management	Click **Add Reader** and enter the reader's **Device ID** (as set in the Identium Active Reader app), a name, a zone or location label and, optionally, its IP address and TCP port. The status turns green when the reader connects
Registration	Register each active tag: tag ID (hex or decimal), name, asset type and owner. Recently heard tags that are not registered are listed for quick registration
Zones	Group one or more readers into a zone. Whatever those readers hear is inside the zone. Set how long a tag counts as present after its last read (5 minutes is recommended), an expected head-count and a colour
Live Presence	Every registered tag with its state: **Present** (heard in the last minute), **Stale** (in the last 10 minutes) or **Missing**, with the reader and zone where it was last heard
Live Tracking and Raw Inventory	The live feed of reads, and every read stored, with search
Analytics	Reads over time, per reader and zone, antenna use and signal strength, with CSV export

> **TIP**
> A new reader zone starts as an evacuation-point type. Choose the type that matches the area (work area, entry / exit, restricted, and so on) when you create it.

The F529 User Manual explains how to mount the reader and connect it to your server.

15/ Connecting Your Own Systems

Two ways to use the platform's data in your own software, for example a maintenance system, an ERP or a security console.

Alert webhook

Set `ALERT_WEBHOOK_URL` (and optionally `ALERT_WEBHOOK_TOKEN`) in `.env`, or ask Identium to set it on a hosted platform. Every alert is then also sent to that address as an HTTP POST with a JSON body; the token, if set, arrives in the `x-alert-token` header.

```
{
  "id": 412,
  "acknowledged": 0,
  "created_at": "2026-11-20T12:15:31.000Z",
  "alert_type": "zone_breach",
  "beacon_mac": "E4:5F:01:A0:10:04",
  "beacon_name": "Supervisor – Badge 002",
  "zone_id": 1,
  "zone_name": "Cold Room",
  "floor_id": 1,
  "message": "Supervisor – Badge 002 entered Cold Room"
}
```

Example alert body. alert_type is one of zone_breach, zone_dwell, tag_offline, low_battery, sos.

Read positions with the REST API

1. Sign in once: `POST /api/auth/login` with `{"username": "…", "password": "…"}`. Keep the session cookie it returns (valid 24 hours). Create a separate user with read-only page access for this.
2. `GET /api/ble/positions?floor_id=1` returns the current position of every tag on that floor: MAC, name, asset type, X / Y / Z in metres, accuracy, source and time.
3. `GET /api/ble/locate?q=forklift` searches tags and returns each one's floor, position, age and status (live, stale, idle, never).
4. `GET /api/ble/alerts?unacked=1` returns the open alerts.

```
curl -c cookie.txt -H "Content-Type: application/json" \
     -d '{"username":"api.reader","password":"<password>"}' \
     http://<server>:3003/api/auth/login
curl -b cookie.txt "http://<server>:3003/api/ble/positions?floor_id=1"
```

Read the current positions on floor 1.

> **NOTE**
> Positions are in metres in the floor's own frame (origin at the top-left corner, section 06). Identium can supply the full API reference on request.

16/ Troubleshooting

Problem	Likely cause	What to do
A gateway never appears on BLE Gateways	It is not sending to this server, or the port is blocked	Check the gateway's server IP and port (UDP 7628, JSON). On Linux run `ufw allow 7628/udp`; on Windows add a firewall rule
A gateway goes offline	Power, network or link lost for more than 90 s	Check its power and network lights; switch on the server heartbeat in the gateway settings
Tags are pulled towards the top-left corner	A gateway has no position	Give every gateway a floor and X / Y (section 07)
A tag is heard but never shown	The tag is not registered	Register it from the Unregistered beacons list (section 09)
A tag sits on a gateway's spot	Only one gateway hears it well	Expected at zone level. For finer positions add gateways so two or more hear every spot
A tag shows on the wrong floor	A gateway on another floor hears it most strongly	Check the floor set on each gateway
No AoA tags at all	AoA switched off, UDP 55554 or 8256 blocked, or another program uses UDP 55554	Check AOA_IQ_INGEST=1, the firewall, and that only one AoA program runs on the server; check the anchor has a floor and position
AoA tags mirrored, rotated or offset	Anchor position, height or azimuth wrong	Run the calibration check (section 13)
AoA dot stops at the edge of the coverage circle	Tag beyond the anchor's range	Add an anchor
No zone alerts	The zone's alert options are off, or the tag is not registered	Edit the zone and tick On enter / On leave or set a max dwell
Alerts do not reach your system	Webhook not set or not reachable	Check ALERT_WEBHOOK_URL and that the server can reach it
Tag offline alerts for tags in a drawer	Expected: no position for 10 minutes	Acknowledge them, or ask Identium to change TAG_OFFLINE_MIN
Signed out unexpectedly	Sessions last 24 hours	Sign in again
An active RFID reader never connects	Wrong server IP or port, or TCP 4610 blocked	Check SERVER_IP, the reader's upload settings and the firewall

17/ Support

For help with installation, integration or a fault that the steps above do not clear, contact Identium. Please keep the product model, the software version shown in the app and a short description (or screenshot) of the problem ready.

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Phone	+91 97181 99516 · 011-4714 7839
WhatsApp	+91 82877 32647
Email	info@identium.in
Software and documents	www.identiumone.com/resourcehub/
Buy hardware and tags	www.indiarfidstore.com

This product and its software are updated from time to time; screens and specifications may change without notice. Check the Resource Hub for the latest version of this manual.