

## Bluetooth Beacons

### Overview

Bluetooth Beacon Tracking extends Symtech M5 asset visibility beyond GPS-tracked vehicles, enabling low-power, cost-effective identification of tools, equipment, and non-powered assets.

Beacons broadcast a secure Bluetooth identifier and are independently detected by either M5 Sentinel trackers or mobile devices running the M5 Guardian app, with both detection methods reporting asset presence and location to the M5 platform.



### Key Objectives

- Enable cost-effective monitoring of non-powered or secondary assets.
- Extend asset visibility beyond vehicles to sites and people.
- Reduce loss, misplacement, and unauthorised asset removal.
- Improve operational accountability without increasing hardware complexity.

### Core Functionality

Bluetooth beacons transmit a unique identifier at regular intervals using low-energy Bluetooth (BLE)

- Beacons are securely associated with asset records within M5
- Detection occurs independently via:
  - M5 Sentinel GPS trackers installed in vehicles or fixed locations
  - M5 Guardian mobile devices operating in the field
- Detection events capture time, detecting device, and location data
- Events are transmitted to the M5 platform and translated into asset presence and movement intelligence

Requirement	Bluetooth Beacon	GPS Tracker
Non-powered assets	✓ Ideal	✗ Not practical
Cost per asset	✓ Low	✗ Higher
Battery life	✓ Years	⚠ Limited
Precise GPS location	✗ No	✓ Yes
Presence & association	✓ Strong	✓ Strong
Installation effort	✓ Minimal	⚠ Higher

## Outputs

Asset last-seen location and timestamp.

- Presence and absence history.
- Association history between assets, vehicles, sites, or personnel.
- Alerts and exceptions for missing or unexpected movements.

## Decisions Enabled

- Identify missing or misplaced equipment quickly.
- Confirm required assets were present on site.
- Optimise allocation of shared tools and attachments.
- Reduce unnecessary asset replacement costs.
- Support audits, investigations, and asset accountability processes.

## Benefits

- Operational:
  - Extends visibility to assets that do not justify GPS tracking.
  - Reduces time spent searching for equipment.
- Financial:
  - Lower cost per asset compared to full GPS hardware
  - Reduced loss, theft, and replacement spend
- Behavioural:
  - Encourages accountability through visibility
  - Discourages unauthorised movement of assets.