



Integrated Solution for MOTOTRBO™

- ✓ Networks of any size and topology
- ✓ System infrastructure monitoring and control
- ✓ Bridging for different radio networks

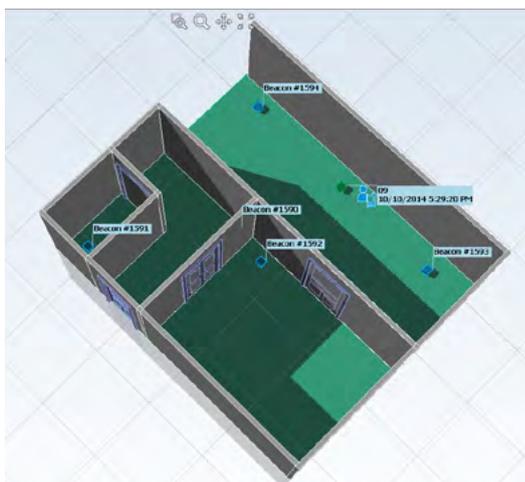


## Indoor Tracking

**SmartPTT Indoor Tracking** is a specially designed Indoor Positioning System for use with Motorola MOTOTRBO radios. The solution supplements subscriber tracking via GPS, allowing dispatchers to monitor the position of employees whether they are located indoors or outdoors.

### Benefits

- **Employee Safety:** In case of an emergency situation, you'll know the exact location of your staff. This helps minimize response times that could be lifesaving.
- **Employee Accountability:** With the advanced system of rules and alerts, you can set guard patrol routes for buildings and premises, and the dispatcher can be informed about any deviations from the route.
- **Easy Deployment:** Data from the beacons is transmitted over the radio channel, so you don't need any advanced network infrastructure. It ensures simple and low-cost system deployment in buildings, mines, tunnels, and industrial structures.
- **Independent operation:** The beacons operate on batteries, which require replacement every 1-2 years (varies per beacon manufacturer and beacon settings).



### Features

- Real-time indoor positioning system for MOTOTRBO subscribers
- Display subscriber movements in 2D or 3D maps
- Easily switch between floors for multi-level buildings
- Subscriber track animation
- Guard patrol route control
- Geo-fencing with configurable alarms
- Lone Worker support

## Required Equipment



The Motorola Indoor Tracking solution requires the Enhanced MOTOTRBO radios (i.e. XPR7550e/ DGP™ 8550e / XiR P8668e/ DP4801e). The radios should be Bluetooth equipped and Indoor Tracking support should be enabled. These radios can then communicate with any Bluetooth Beacons that support the iBeacon protocol (i.e. Estimote or XY Find It).

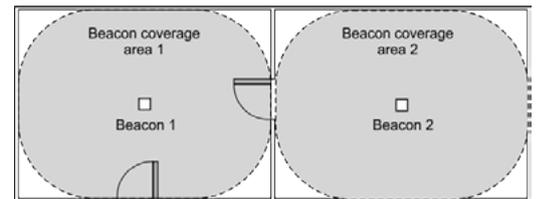
The coverage area of the beacons depends on the selected power level (feature varies by beacon) and could be in the range from 1 to 25 meters (~3 feet – 80 feet). The number of the beacons installed determines the accuracy of the location determination. To get more accurate information about the location of the subscriber in a room, you need to install several beacons.

In addition to the Motorola Indoor Tracking solution, SmartPTT can work with third party option boards and beacons provided by Kilchherr (K-TERM 42 and K-TERM 72) and BluFi (Connect RTLS).

## Indoor Positioning Methods

### Position monitoring

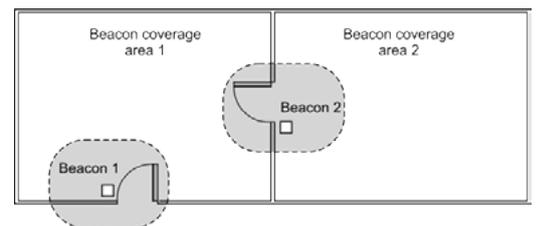
Beacons are installed in the room in such a way, that it provides maximum coverage for the room and minimizes overlapping with beacons in adjacent rooms. The transmission interval for beacons can be set to a few seconds.



When a subscriber enters a room, his radio periodically sends automatic messages with the ID of the closest beacon, so that SmartPTT can identify where in the room the unit is located. Additional beacons can be installed to cover large rooms or to increase the accuracy of the positioning in different areas of a room. It's recommended to configure the transmission power level of the beacons to minimize any overlap of their coverage.

### Gate and key point monitoring

Beacons are installed at doors, gates or next to other key points. The power range of the beacons should be set to the minimum value with a minimum interval between transmissions.



A subscriber passing through a door or key point with beacons installed will report the ID of those beacons. This helps SmartPTT to determine that a subscriber has visited this key point. Such an approach is cost effective due to the minimal number of beacons required in case you need to track the route of an employee without need for an exact location.

