

# USE CASE

## Indoor Navigation and Asset Tracking in Hospitals



### AT A GLANCE

- 2D/3D building maps
- indoor navigation for patients, visitors and staff
- localization and management of medical equipment



## PROBLEM DEFINITION

Each year, hospitals are faced with immense costs in the search for assets. Lost or stolen inventory also has a significant negative impact on patient experience and hospital staff workflows.

In addition, in most hospitals, patients and visitors as well as new employees have difficulty finding their way around increasingly complex healthcare facilities.

## SOLUTION

An intelligent positioning solution enables the simultaneous implementation of indoor navigation and asset tracking with low hardware costs.

Hardware components from infsoft automatically register the location of critical assets (e.g. heart monitors, consumables, beds, wheelchairs) and provide visibility for each captured item. Tracking takes place at important checkpoints in real time and with short delay in places such as patient rooms, treatment rooms and storage rooms. It is ensured that employees have access to all critical assets at all times. The solution improves the utilization of existing equipment and mini-

mizes unnecessary purchases of additional inventory. Thanks to the automation of inventory management, staff can put more focus on patient care. Employees can view the position data via app or browser application. Automated notifications for specific situations can also be defined, for example when a device leaves a certain area.

At the same time, the solution enables indoor navigation on the hospital premises. Patients, visitors and even hospital staff can use a mobile app in order to be guided to their desired destination.

## TECHNICAL IMPLEMENTATION

In areas where higher latency times are not an issue (e.g. patient rooms), one infsoft Locator Beacon is installed per room. The assets to be tracked are equipped with Bluetooth Low Energy (BLE) beacons. infsoft Locator Nodes are installed in the hospital corridors and at checkpoints which are relevant for real-time tracking.

The mobile BLE beacons attached to the assets emit Bluetooth signals that are received by the Locator Beacons and transmitted to the nearest Locator Node. From here, the data is sent to the infsoft LocAware platform® where it is intelligently processed. Using the infsoft backend tools, the device locations are visualized and the data can be used for analysis purposes or the definition of geo-based actions.

Client-based positioning for indoor navigation is achieved via a network of infsoft Locator Beacons evenly distributed throughout the building. This infrastructure also includes those Locator Beacons which are already in use for asset tracking purposes. The Bluetooth signals of the Locator Beacons are received by the smartphones of the users. An app installed on the device uses a signal strength measurement for positioning. Via turn-by-turn navigation, the user is guided to his desired destination.

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