IMAtrack

indoor person and asset locating system

How does the system work as a whole?

1 The IMAtrack locating system communicates within the Bluetooth Low Energy wireless standard (hereinafter referred to as BLE) and it uses the Quuppa Intelligent Locating TechnologyTM. The IMAtrack locator scans the surroundings for the presence of an actively transmitting IMAtrack tag. To achieve high position accuracy, the BLE locators must be precisely placed and calibrated for each room or indoor area.

2 Each IMAtrack locator is connected online to the server via a LAN network. The tag position is calculated by the local server where all the data processing and settings management is performed.

3 Each IMAtrack tag can be equipped with an integrated panic button. When the panic button is pressed, an emergency procedureis initialized immediately. The high-prioritysignal is sent to the server and alarm response is initialized by sending an alarm message to all predetermined devices and client interfaces.

4 IMAtrack client web interface can be accessed from any device (mobile phone, laptop, etc.) using a web browser with appropriate authorization and security credentials for safe and secured system access.
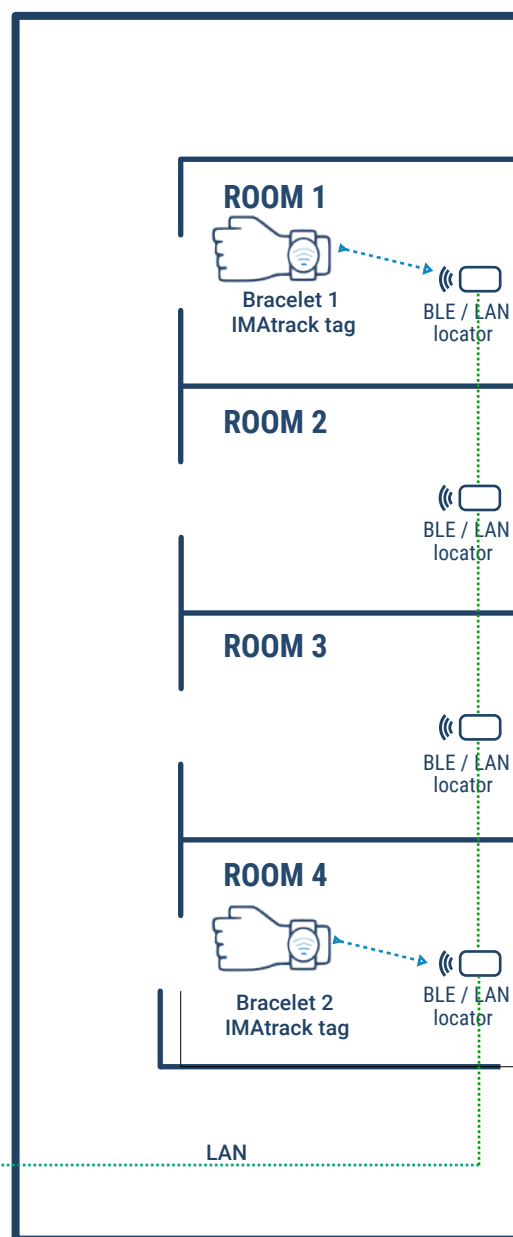
5 The client web interface allows users to monitor the position of the IMAtrack tag bracelet in real-time, as well as to respond to an active alarm or analyse the event log.

Server

Client interface

ROOM 1

Bracelet 1 IMAtrack tag

BLE / LAN locator

ROOM 2

BLE / LAN locator

ROOM 3

BLE / LAN locator

ROOM 4

Bracelet 2 IMAtrack tag

BLE / LAN locator

LAN

SYSTEM COMPONENTS

The IMAtrack locating system is based on Quuppa Intelligent Locating TechnologyTM. The main components are BLE identifiers (usually called tags), BLE locators and the system server. The server includes Quuppa Positioning Engine (QPE) software that processes all the data locally and calculates the actual position of each active tag within range of the system. The intelligent locating system can provide a precise real-time position of any person, asset or device equipped with an IMAtrack tag.

IMAtrack Locator - Quuppa Q17

The Q17 locator is a radio device functioning as a receiver and a transmitter simultaneously. The receiving part of the device scans its surroundings for presence of Bluetooth tags and other devices. The device is powered via PoE and transmits the detected data to the server via LAN network.

Q17 locators are designed for indoor usage in various environments ranging from office buildings or hospitals to shops and malls etc.

More rugged version of the locator enables usage also in various outdoor and industrial environments such as manufacturing plants, parking lots, factories etc.

Active SW licenses are required for the locators' operation.

TECHNICAL SPECIFICATIONS

Frequency:	2401 … 2481 MHz (receiver) 2402 … 2480 MHz (transmitter)
Voltage:	48 V PoE or 5 V DC
Dimension:	Ø 170 mm x 31 mm
IP rating:	IP 44
Operating temp. range:	0 to +60 °C
Weight:	390 g

IMAtrack tag

The identification tag is a small active Bluetooth radio transmitter. It comes in a shockproof, wearable form factor and is fully integrated with the locating system; enabling also the option of a feedback channel.

For person tracking applications it can be used as a wristband or a necklace type of compact wearables, offering an easy access to a panic button for emergency situations in hospitals or psychiatric facilities.

TECHNICAL SPECIFICATIONS

Bluetooth version:	compatible with BLE 5.2
Frequency band:	2.4 GHz, max. output power 2.5mW
Power suply:	integrated battery CR2032
IP rating:	IP 67
Operating temp. range:	0 až 60°C
Equipment:	3-axis accelerometer LED signaling integrated panic button
Method of use:	watches pendant

LOCATING SYSTEM SOFTWARE

The individual tag position is then processed by an Application Software enabling advanced data processing, visualisation and storage. Subsequent data-driven analysis and process optimisation can also be performed within the SW.

All personal and system data are processed and stored on a local server.

The IMAtrack Alarm application SW can be used for an effective alarm response in case the panic button is triggered. In such a scenario, the Alarm application informs staff about the emergency situation and about the Tag's last known position. The message contains Specific room number or area description, time of the event and assigned user ID.
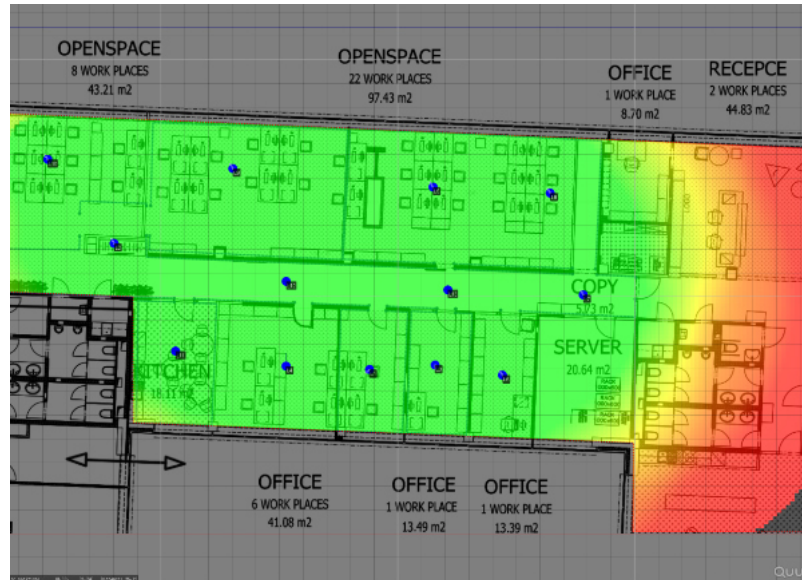
Upon the triggered alarm message, the staff is then prompted to acknowledge the receipt of the message and - after resolving the emergency situation - to confirm the incident resolution. In addition, IMAtrack enables logging and back-log access to all received alarm messages with filtering options for a faster log search.

The QPE locating platform is based on an annual license fee for which a complete support, with both software and firmware updates of all system components, is provided. This model guarantees a reliable long-term functionality with respect to other software, such as the operating system, etc. Licenses are available in standard durations of one, two and three years (other options are also available).

CASE STUDIES AND INSPIRATIONAL INSTALLATIONS

There are thousands of successful Quuppa based RTLS deployments scaling up to tens of thousands of active tags on tens of thousands square meters of tracked area including most demanding metal processing plants and heavy duty industrial sites.
RTLS technology is used for patients, employees and devices tracking in hospitals including demanding psychiatric departments. Indoor tracking is used in public buildings, universities, libraries or offices to monitor Covid-related risks or shared workspace occupancy.

Real-time location is used in sports such as ice-hockey for both player and puck monitoring even at highest speeds, real-time visualization and statistics analysis. And last but not least there are thousands of successful industrial, manufacturing and logistics installations where the speed of ROI exceeded original expectations.

IMA IS QUUPPA'S PROFESSIONAL SOLUTION PARTNER

IMA is a member of Quuppa Professional Partner network as a Solution Partner since early 2021. As such partner IMA provides tailored RTLS services and solutions based on proven and reliable Quuppa technology and furthermore expanded with modules, products and services from world-wide Quuppa Partner Network.

This includes specific HW components such as rugged locators for heavy industry or explosive environment, huge Tag portfolio from heavy duty to healthcare or food-grade materials, visualization SW, database APIs, logistics SW plug-ins etc.

IMA IS QUUPPA'S CERTIFIED TAG PORTFOLIO PARTNER

IMA offers wide portfolio of tracking Tags in all shapes and sizes from small wearables to heavy duty industrial building upon tested and certified products from our Partner Network.

Individual customer solution needs are analyzed by our specialists and most suitable components are selected. The application fields span from professional athletes, hospitals, industrial production sites, logistic centers and many others.

CONTACT US

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