

Indoor Tracking

Ultra Wide Band
RTLS system



Guardian Tracking indoor

The recent advent of UWB (Ultra Wide Band) technology has paved the way for the integration of high precision indoor tracking systems.

Depending on the configurations adopted, the detection can be pushed up to 10 cm resolution, with dozens of objects moving for each detection area. It has now established itself as one of the reference points in IoT applications.

The **Guardian** platform natively integrates Bluetooth® Low Energy into numerous modules, taking advantage of all its peculiarities in terms of transmission distance, low power consumption and low cost of the devices.

The **Guardian Tracking BLE** module offers the possibility to detect the presence in rooms or areas of people or objects equipped with a beacon, by displaying their presence on the operator consoles.

The module is suitable for applications where position accuracy is not required but only the presence data, and also offers the advantage of being able to use the beacon virtualization on mobile devices, on which the operator can send permanent tokens or temporary.



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2B CONTROL

The application

Guardian Tracking Indoor is an infrastructure that offers a wide spectrum of applications such as, for example:

Monitoring of trucks for logistics: the monitoring of forklifts in logistics is one of the most performing applications of indoor tracking technology. The transponder on board the vehicle is able to transmit the complete data (3D position and orientation) of the pallets by means of an integrated electronic compass and a system for interfacing with the fork lift, allowing complete automation of the missions;

Punctual control of moving equipment: any type of equipment or vehicle moving in indoor areas can be tracked in real-time. An application example is that of hospital equipment, whose location can reach the accuracy of the single bed of the treated patient;

Sport Traching: through the use of a wearable transponder, which can be inserted into any type of sports equipment, it is possible to realize in real-time tracking the movements and orientations of the players, compare the movements made with schemes, calculate performance indices;

The configuration

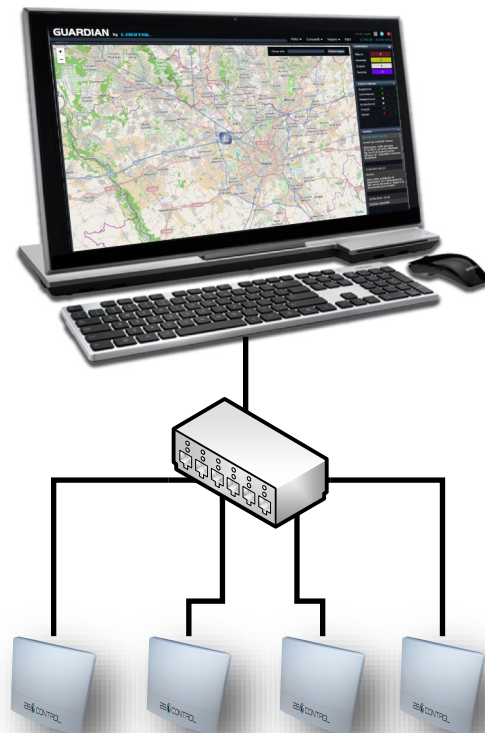
Guardian Tracking Indoor uses antenna sets (minimum 4) to be placed in an optimal position (typically at high points) in order to allow an "optical" view of the objects to be controlled. The antennas, which reach a range of 50 meters, are connected to a concentrator with a Cat6 UTP connection, on which data and power are transported.

The concentrator in turn interacts with the Guardian Tracking Indoor software module transferring the data already processed by the absolute positions of the transponder.



Antenna UWB with UTP connection to the concentrator

4- antenne configuration and TCP/IP concentrator



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