BLEO location system based on BLE technology

What is it used for and why you should have it?

1. The system is **locating objects in industrial environment**, in situations where traditional location systems based on GPS are not able to operate.

2. The advantage of the active BLE (Bluetooth Low Energy) technology used here results from the fact that it does not require direct "optical" visibility of the searched object, and that it works well in the presence of machines and various metal building elements, including halls with walls and roofs covered with a sheet.

3. Quick and reliable way to locate tools and devices leads to a better work organization. You can shorten the time required to find necessary tooling and in a consequence limit production disruption.

How does it work?

1. Every localized object receives **BLEO-Transmitter (BLEO-T)** visible in the image below (miniature version). It is possible to adjust the strength of emitted radio signal and the frequency of data broadcasted by the transmitter.

2. **BLEO-Scanner (BLEO-S)** devices are installed in the area covered by the location system. They recognize BLEO-T transmitters in their immediate neighborhood and pass the information about located objects to the computer hosting application which manages the location system. It is possible to connect BLEO-S devices to LAN network either by a cable or using Wi-Fi.

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3. **The application which manages the location system** presents information about the located object and notifies the user if the battery level in BLEO-T transmitter is low. It provides functionality to configure and system administration which reduces the installation and maintenance cost.

4. The simplified architecture of the BLEO system:

5. **Option: a mobile application** that facilitates finding the object you are looking for.

Functionality supported by the system management application:

1. Adding/removing BLEO-T transmitters and BLEO-S devices supported by the system.
2. Possibility of self-reconfiguration of the system by the customer.
3. Reporting module (tables, charts, reports, exporting data to CSV format).
4. Active tracing module (event detection and remote notification).
5. Possibility to extend the system with measuring transmitters - this way it is possible to wirelessly measure temperature, humidity, angle, vibrations in 3 axes and other quantities from measuring transducers.

Benefits:

1. Low cost of maintenance due to administration and configuration functionality which eliminates the need to hire contractors to perform installation of the system.
2. Servicing costs are limited to periodic battery replacement. Users are notified about the low battery level in advance.
3. Additional possibilities to use the data provided by the system, for example to plan maintenance of located tools and devices based on their overall working time.

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