



Positioning of Overhead Cranes



AT A GLANCE

- 2D/3D building maps
- localisation of individual overhead cranes
- geo-based danger zones to protect employees



PROBLEM DEFINITION

Overhead cranes are usually used for retrofitting a crane system in an existing hall. Due to their special design, even low warehouses can be converted into production halls. However, this also presents some risks for the employees. As soon as the load hook tears and people are under a overhead crane, an accident can quickly occur.

SOLUTION

The individual overhead cranes are located by means of Indoor Tracking based on Ultra-wideband (UWB) and located in a digital map, to which every employee has mobile access via a terminal or app.

By means of geofencing, virtual danger zones through borders are set up. If a person crosses such a limit, an alarm is triggered and the overhead crane immediately comes to a standstill. This prevents an employee from being hit by the heavy load.

TECHNICAL IMPLEMENTATION

In the hall, infsoft Locator Nodes are installed and connected to the power grid. infsoft Locator Tags with UWB module are attached to the overhead cranes themselves. The Locator Nodes scan their environment for signals from the Locator Tags and send the captured data to the infsoft LocAware platform®. Here they are collected in a database and sent to infsoft Indoor Tracking. Using an app or browser application, employees can access the data and see the location of the overhead crane on a map with an accuracy of less than 30 centimetres. With infsoft Indoor Tracking, additional attributes such as device type, inventory number and technical features are assigned to the locator tags, which can also be searched for.

The safeguarding of hazardous areas is also possible. The employees carry a beacon in the form of an employee ID card. If a worker's beacon is detected in such an area, an alarm is triggered and the respective overhead crane is immediately stopped.

All collected data is linked in real time and can be evaluated at any time in the form of graphs and diagrams via infsoft's Analytics Engine.

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