Temperature Monitoring of Food in a Warehouse

AT A GLANCE

- 2D/3D building maps
- indoor navigation within the warehouses
- central overview of food locations
- overview of status information
PROBLEM DEFINITION

Every day, several thousand foodstuffs (meat, fish, fruit, vegetables, etc.) are stored in a warehouse. Keeping to the cold chain is particularly important so that the goods remain fresh and durable for as long as possible and do not spoil. Raw meat and fish are particularly sensitive foods. The ambient conditions also influence the raw stored foodstuffs. For example, air contributes to the degradation of flavours and nutrients. A humid environment dries out food, whereas a too humid environment in turn favours the growth of bacteria. Warm temperatures further accelerate this process. Low temperatures, on the other hand, can cause cold damage to cold-sensitive fruits and vegetables.

Regular defrosting of refrigerators and regular cleaning of the refrigerators must also be ensured when storing foodstuffs in order to avoid further bacteria or mould.

It also happens that goods can no longer be found or are delivered too late. This results in expensive production stops or post-production.

SOLUTION

Indoor Positioning via BLE Beacons is used to determine the location of the foodstuffs. The position and all important information such as temperature, humidity, shocks and the last cleaning will appear in an app or dashboard. Past measured value changes of the goods can also be recalled at any time.

TECHNICAL IMPLEMENTATION

The pallets on which the foodstuffs are transported and stored are equipped with BLE beacons. infsoft Indoor Tracking allows you to assign attributes such as temperature, pressure, humidity, expiration date, etc. to the BLE Beacons, which can then be searched for.

infsoft Locator Nodes are installed in the warehouse, which receive the signals of the BLE Beacons and forward them to the infsoft LocAware platform®. Here the position is calculated and provided via a dashboard. An app or browser application gives employees access to the data and displays the location of the device on a map.

Using the infsoft Analytics Tool, historical data can also be retrieved and evaluated at any time and compared with the real-time data.