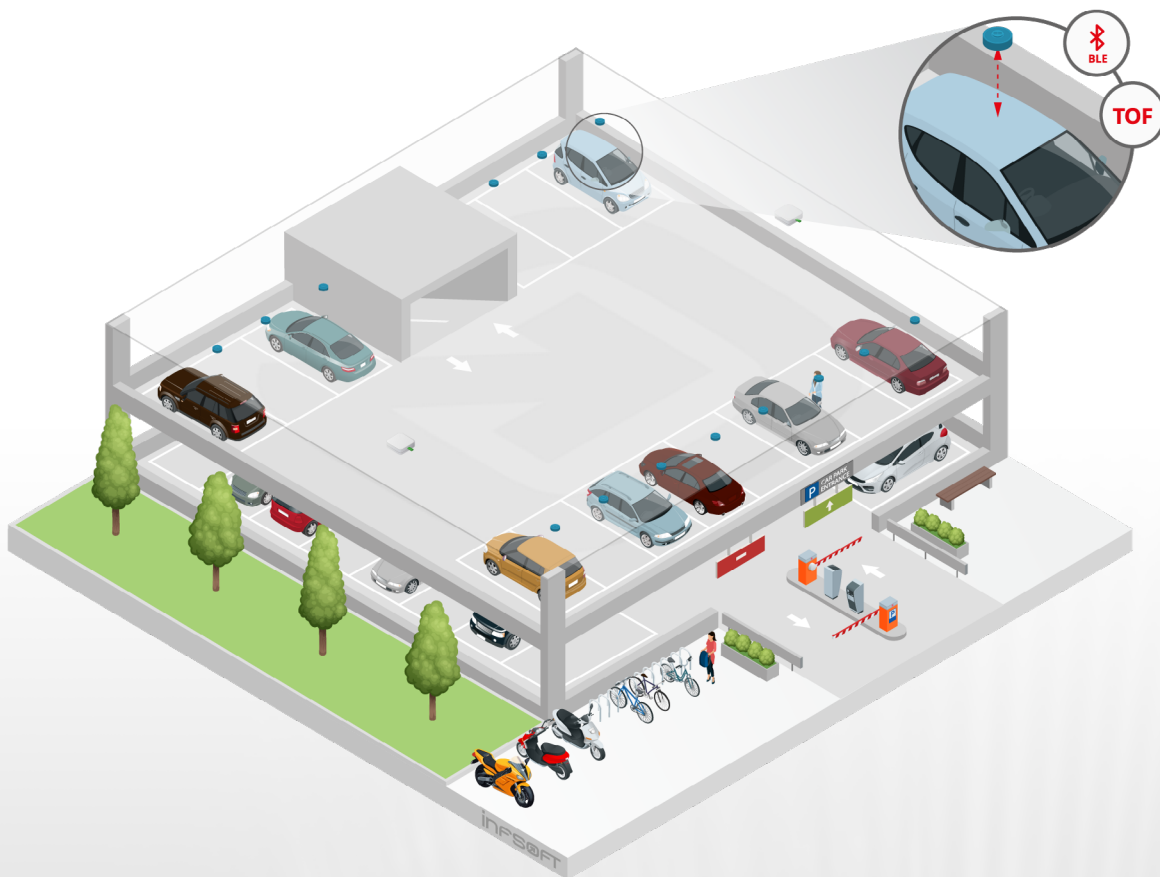


USE CASE

Parking Lot Occupancy Using Time-of-Flight Sensors



AT A GLANCE

- Use of time-of-flight (TOF) Sensor Technology
- Easy Hardware Installation
- Information about the Workplace Experience App



TECHNICAL IMPLEMENTATION

The TOF (time-of-flight) sensors are installed on the ceilings of the car parks to be monitored in order to reliably differentiate between occupied and free parking spaces. A key factor for precise occupancy detection is the selection of a suitable threshold value, which ensures that free and occupied parking spaces are correctly recognized.

The time-of-flight method is based on light pulses for distance measurement, and the sensor system measures the time it takes for a light pulse to reach a specific object – in this case, a vehicle – and return. The system recognizes the parking space as occupied if the measured value falls below the previously defined threshold value, such as a threshold value of 2 meters and a measured distance of 1.50 meters.

The infsoft LocAware platform® processes the occupancy data from the time-of-flight sensor, displaying it clearly in the Workplace Experience App and on the car park display boards.

PROBLEM DEFINITION

The efficient detection and management of car park occupancy, especially at charging points for electric vehicles, is a key challenge in modern car park management systems.

SOLUTION

Time-of-flight (TOF) sensors present a promising solution, utilizing light pulses to measure precise distances and reliably detecting the presence of occupants in a car park. The infsoft LocAware platform® processes the detected occupancy information, taking into account the defined threshold value, and makes it available to users via the infsoft Workplace Experience App. This way, users of the application receive accurate information about the current car park occupancy in real time.

This technology not only enables the efficient monitoring of car parks but also opens up potential for other use cases such as the detection and monitoring of filling levels.

Imprint

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