

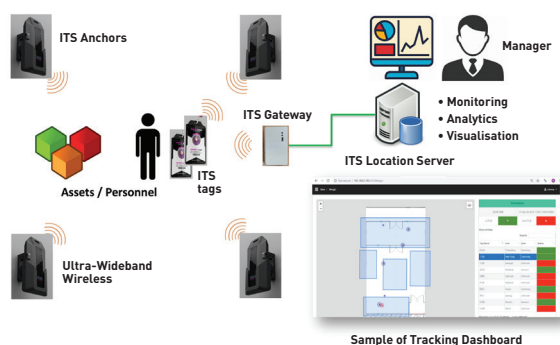
ITS

High Accuracy Real-Time Indoor Tracking System

An indoor location tracking system capable of performing high-accuracy position determination, storing and analysing the position of a tracked subject. This system is suited to Smart Manufacturing and Internet of Things (IoT) System use cases which require high accuracy position awareness.

Technology Overview

Indoor Tracking System (ITS) is a high accuracy tracking system utilising Ultra-Wideband (UWB) technology. It supports real-time location data collection and analysis for IoT applications in 4IR (specifically Industry 4.0) environments. The system consists of four device types, namely tracked tags, fixed position anchors, gateway(s) to communicate with tags and anchors and a central server to receive, store and analyse tracked tag positions. Distance is measured directly through time-of-flight resulting in higher accuracy position determination.



Technology Benefits

The main impacts of ITS are:

- **Digital Twin Representation for IoT/Smart Manufacturing**
Enable simulation of cyber-physical systems with realtime location data to enrich analysis and decision-making.
- **IR4.0 Catalyst**
Indoor positioning is a fundamental technology to enable innovative and practical use cases applicable to industry.

Features

ITS provides following features:

- **Indoor Location Positioning**
Accurately display a position in real time with visualisation on a real-time dashboard.
- **Human or Asset Tracking Mode**
Operation mode for either personnel/human or asset tracking with applications for work place optimisation.
- **User Geofence/Zone Creation**
System user ability to create geofence areas of interest. Ability to assign work jobs/activities in zones if in human tracking mode, or assign specific areas of expected statically position assets in tracked coverage area.
- **Analytics and Report Generation**
Analytics determining dwell time of tags in created zones and density heatmap. In human tracking, overall daily dwell zone summary and dwells per job-zone time/activity. In asset tracking, a report indicating tags in or out of assigned zones.
- **Position Replay**
Allow replay of tag movement for historical tracking review.
- **API Access**
Access of location data to allow third party for developing different analysis, applications and monitoring dashboards.

Applications

Manufacturing, Retail, Healthcare and Tourism.

