

ITECH AIM RTLS & Asset Management Module

"Connected World | Smarter Business"

Pin-Point, Zone-Level or Gate-Level Locating of Mobile Assets



Core of Our Solution: RTLS

It is the abbreviation for Real Time Locating System. It is like a GPS solution for locating assets in industrial environments. A typical RTLS solution consists of three major hardware elements: Tags, Reference Nodes/Readers, Gateways. Hence the real solution lies within the application software: Location Engine and Business Intelligence with simple User Interface.



Tags

It is a small piece of electronic device that talks with nearby reference nodes and readers. Each tag has an ID number to enable identification. RTLS tags come in various forms to ease attachment on assets or on personnel.



Reference Nodes/Readers

Reference nodes and readers are deployed in pre-determined locations and these locations are mapped in the location engine. These devices form reference points for tags to help them located by wireless ranging.



Gateways

Gateways provide connection between application server and deployed reference nodes/readers. They provide connectivity through GPRS, Ethernet, Serial or Wi-Fi depending on the installation environment.

What Do We Offer?

ITECH AIM Real Time Asset Tracking and Management Module is capable of using three distinctive RTLS technologies with a solid server software and tailor-cut business intelligence.

	Pin-Point	Zone-Level	Gate-Level
Location Accuracy	Below 50 cm	Predefined Zones	Per Gate
Core Technology	UWB	Active RFID w/ Zone Locators	Passive RFID
Complexity	High	Medium	Low
Flexibility	High	High	Medium
Infrastructure Cost	High	Medium	Low
Sampling Rate	1 Hz - 10 Hz (Almost Real Time)	Max. 0.25 Hz (Blink once per 4 seconds)	N.A.
Tag Options	CANbus, Vehicle Sensors, GPS, Motion Sensor, I/O Ports, DC, Call Button, Com. Ports	Motion Sensor, Call Button, Temperature Sensor, I/O Ports	Rugged, Embedded, BAP, High Temperature, ATEX, Reading w/ Handheld Terminals
Applications	Forklift Tracking, Collision Avoidance, Container Tracking, Airfield Operations, WIP	Lone Worker Safety, Anti-Theft, Low Resolution Tracking, Cold Chain Monitoring, Healthcare	Inventory Management, Tool Tracking, WIP, Cold Chain Monitoring

REAL TIME ASSET TRACKING AND MANAGEMENT APPLICATIONS

Forklift Tracking (Pin-Point)

Provides the capability to track the positions and status of forklift trucks and material handling equipment, that are operating both indoors and out.

Sub-meter positioning accuracy allows to accurately identify pallet locations and automatically monitor all pallet movements as part of the WMS or ERP solution.

- Monitor positions, movement and status of Forklift Trucks or other Material Handling Equipment (MHE)
- Option to add personnel and asset tags for increased visibility
- Enables WMS with full visibility of stock movement and locations
- Increase safety with automated enforcing of speed limits, height limits, no-go areas etc.

Position Detection for Container Terminals (Pin-Point)

Provides a solution to reliably monitoring the position and status of Container Handling Equipment (CHE) across the operations area of the terminal.

The key feature here is that the position tracking can be reliably extended into areas where GPS or other tracking systems do not succeed, such as underneath large cranes.

- Monitor positions, movement and status of Container Handling Equipment (CHE)
- Interface with Terminal Operating System (TOS) for container and site management
- Reliable operation, even when operating underneath STS cranes and other constructions

Collision Avoidance (Pin-Point)

Uses a combination of vehicle position and inter-vehicle ranging to provide collision avoidance with built-in redundancy. Safe Operating Distances can be managed for different operators and locations. An audible alarm and visual indicator inside the cabin warns the vehicle operators when a person or vehicle gets closer than the safe operating distance.

- Increase safety and productivity
- Reduce downtime and avoid costs
- Possibility to track both vehicles and personnel for added layers of security
- Hybrid solution with multiple layers of redundancy for fail-safe operation

Airfield Operations Tracking (Pin-Point)

Provides capability to track the position and status of the Ground Support Equipment (GSE) and vehicles across the operations area of the airfield.

Aircraft handling movements can be detected, reported, equipment utilization can be optimized, fleet sizes and fuel consumption can be reduced for a positive ROI.

- Track Ground Support Equipment position, movements and status
- Reliable operation across the airside, tracking vehicle positions on the apron and tarmac
- Extend position tracking indoors to baggage sorting areas, maintenance hangers and other locations
- Add person and asset tags for extended operational visibility

Lone Worker Safety (Zone Level/Pin-Point)

ITECH AIM provides lone worker safety by monitoring real time location of workers at working environments. Software programmable and automatic alarm situations such as emergency call button, immobile worker, faint/free-fall with location information is monitored. This reduces the emergency situation intervention time and also enables preventive safety.

- Vehicle to vehicle and vehicle to man collision avoidance is enabled by pin-point locating system.
- Lone workers are tracked and alarm situations are handled automatically, i.e. the worker faints, falls down or pushes the emergency call button.
- Workers and vehicles can be alarmed when they enter a forbidden or dangerous zone.

Anti-Theft (Pin-Point/Zone-Level/Gate-Level)

Provides automatic alarm when tagged objects are moved from their pre-defined zones. Robust passive tags are used with permanent attachment methods to prevent removal of tags for gate-level solution. Periodic signals are monitored on server-side in Pin-Point and Zone-Level solutions, so that jamming or tampering the tags/readers/gateways can be sensed. Motion-sensors are also used to detect unauthorized motion of equipment.

- Affordable RTLS module for theft-prevention
- Track unauthorized movements almost real time
- Alert authorized officers or private security via SMS or Voice-Call automatically
- Can use GPRS/GSM gateways for extra redundancy

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REAL TIME ASSET TRACKING AND MANAGEMENT APPLICATIONS

Cold Chain Monitoring (Zone-Level/Gate-Level)

Provides pallet level or box level tracking of cold chain products in warehouses with location information. Doing so, enables heat mapping of the warehouse and accurate shelf life prediction of individual items. Knowing the shelf life of individual pallets/boxes provides automated decision making such as selecting the best destination due to remaining shelf lives of items rather than a FIFO approach.

- Monitor cooling of individual pallets/boxes with zone or gate level location information.
- Monitor the real time heat map of the warehouse
- Increase customer satisfaction via freshness
- Reduce risks on human health and on business
- Dock to destination tracking is possible with the same infrastructure

Work-in-Process Traceability (Pin-Point/Gate-Level)

Provides real time tracking of components and WIP items. Collected data from the items can be linked to any production, testing and quality control system to provide visibility in WIP.

- Enhance visibility to WIP from raw-materials to finished products
- Reduce labor cost of tracking assembly process items
- Enable warranty tracking for raw materials and components
- Reduce shipment error rate
- Reduce asset shrinkage

Healthcare (Pin-Point/Zone-Level)

Provides real time tracking of mobile assets, staff and patients. Asset tracking in healthcare is proved to be improving asset utilization rate such that it can provide a ROI with in 3 months.

Tracking staff optimizes nurse/floor ratio and helps staff performance ratings, thus improving both patient and staff satisfaction.

- Track mobile assets, staff and patients in facility floor plan in real time
- Improve asset utilization rate
- Improve staff and patient satisfaction
- Improve staff and patient security against attacks
- Implement and exceed governmental regulations such as nurse call systems

Tool Tracking (Gate-Level)

Provides tracking tools and their individual maintenance history in real time, thus improving asset utilization rates and operational efficiency in manufacturing, aerospace, automotive and healthcare facilities.

- Track and manage tools and maintenance history in real time
- Reduce down time for searching for tools or supplies
- Optimize order quantities, calculate supplier performance and ensure accurate replenishment
- Reliably locate tools and supplies near work cells
- Monitor usage and replenishment costs

ITECH is the Superior RTLS Solution Provider in Turkey today with the aim to be global tomorrow

- The most affordable RTLS solutions in the market today
- Seamless Real-Time Business Intelligence with Fusion Algorithms and Big Data Analytics
- Extensive site survey to implement the most feasible solution and the maximum ROI
- Analysis and consultancy expertise even after the deployment to speed up the organizational integration process
- Software API, on-site training, cloud or on-premise deployment, maintenance and technical support
- Integration to any third party ERP, WMS, MES, MMS software and governmental/corporate databases
- RTLS is our expertise; we know every single detail from electronic design to organizational integration

ABOUT US:

ITECH is a tech start-up founded in 2011 in Turkey and selected as one of the top 10 tech start-ups of Turkey in 2013 by Turkish Ministry of Science, Industry and Technology.

ITECH's innovative business intelligence platform ITECH AIM provides affordable operational efficiency improvements for all sizes of companies by enabling physical asset traceability from planning to organizational integration with flexible payment options.



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