Asset Tracking Solution

This Asset Tracking Solution never created before, refers to a product family developed by INEO-SENSE and dedicated to identification and localization services. Combining Real Time Localization Services and long range reading, INEO-SENSE offers a new way to solve active RFID issues for mobile equipment and sensitive parts.

Well suited for all applications requiring a wide area coverage like airports, rail stations, docks, or in general all outdoors identifications, it also fits large buildings like museums, hospitals or warehouses without the need of huge and expensive installations.

As a valuable distinction to the existing market, Ineo-Sense has created new services around the Clover-Net native added values and now LoRaWAN. These specific functions dedicated to long range RFID application reinforce the trade-off between reactivity, coexistence and security.

Thanks to its very simple infrastructure implementation and its ability to run autonomously, it can be used in temporary installation like audit or even isolated sites.

Examples of tracked assets

Flexible and Scalable

The most obvious use being asset tracking, TRK-Tracer device runs as an activity tracer, but also and mostly offers the capability of flow control, equipment use-rate, stock status, real-time inventory, localization and security against theft.

Long Range

Clover-Net protocol includes short range communication but not only. It embeds LoRa technology as proprietary protocol to achieve distant communication form up to several kilometers. All Clover-Net capable devices natively manage relayed messages in order to extend the range of action.

In addition, TRK-Tracer and other devices are geographically limit-free as they support the LoRaWAN communication network .
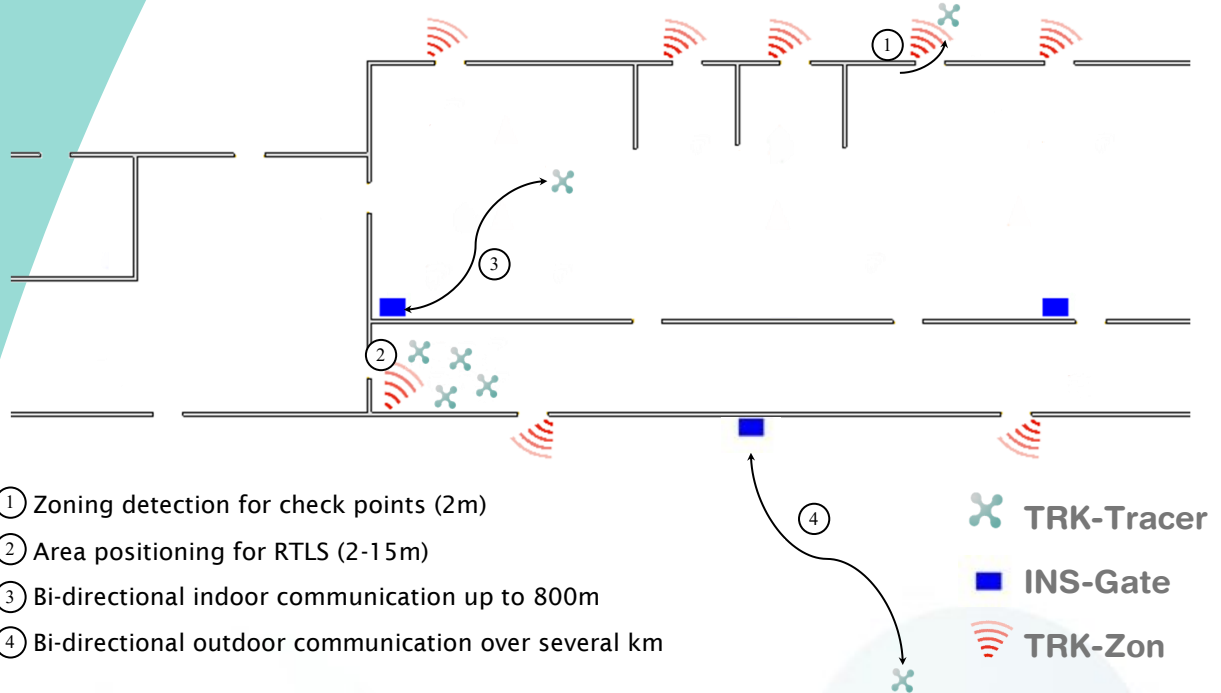
Coexistence

Operating in free license ISM bands, this solution uses all RF communication technics and gets benefit from each one of them. Combining multi-channels frequencies and different protocols, RF spectrum is cleverly used to maximize any feature.

All these advanced communications make the system robust against interferences and tampering. Clever RF spectrum share allows features based on spontaneous messages for event alarm or even scheduled data transmission.

Security

Data integrity is achieved thanks to message acknowledgement and data interleaving.

In addition, communication security is improved by using AES encryption and other mechanisms with volatile keys. Event counters allow a full traceability of the usage and give a previous operating process history.

Reactivity

TRK-Tracer embeds sensors which allow it to wake-up at the right time and react to any event in less than a second. Patented algorithms combine ultralow power, zoning and other event detections attributes to fit battery powered applications.
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Asset Tracking basic infrastructure

① Zoning detection for check points (2m)

② Area positioning for RTLS (2-15m)

③ Bi-directional indoor communication up to 800m

④ Bi-directional outdoor communication over several km

✕ **TRK-Tracer**

■ **INS-Gate**

))) **TRK-Zon**

Related products

TRK-Tracer

- High scalability
- Bidirectional active Tag
- Motion sensor (Tilt & chock detection).
- Real-time event detection
- Long battery (> 3 years)
- Zoning and event recorder
- Clover-Net private network and LoRaWAN in the same application

TRK-Tracer version

TRK-Slim version

Special highly rugged version

INS-Gate

- Ethernet Gateway
- MQTT protocol
- Presence and Alarm receiver
- Optional PoE version
- Optional GSM verison

TRK-Zon

- Zoning Beacon
- Settable zoning area 1 up to 100m
- Remote monitoring
- Long battery life (> 3 years)
- Optional external power supply.