

ASSET AGENT TECHNICAL PAPER

IDEN TEC SOLUTIONS AG is a global leader in wireless solutions that enable visibility of personnel and assets. Our solutions optimize safety and efficiency in industrial environments, while reducing costs.

Production plants worldwide are implementing Real-Time Location Systems (RTLS) and close range identification technologies from IDEN TEC SOLUTIONS for the location and verification of materials and objects throughout the production process.

INTRODUCTION

What is RTLS?

A Real-Time Location System (RTLS) refers to technology that detects the current location of objects.

The benefits of Asset Agent include:

- Highly robust performance in industrial environments
- Efficient information distribution enabling the quick location of objects
- Increased efficiency by reducing errors

An RTLS is implemented on the shop floor and will accurately locate assets or materials. Via trilateration/multi-lateration positions are calculated and then mapped to zones on the production site. They can be fed into third party ERP systems to automate the booking of materials. Operators also have the ability to locate and identify materials on-site using the “Pick by Light”-feature.

What is close range identification?

Close range identification is a technology that identifies objects in close proximity. The information is collected and automatically mapped into an IT-system.

The main goals of a close range identification system are:

- Increase process efficiency and quality
- Eliminate errors in data entry
- Free up human resources to perform more valuable functions

SYSTEM COMPONENTS

HARDWARE

i-PORT M352 SAT-422 or -POE



i-PORT M352 SAT-422 or -POE devices support high localization precision. An i-PORT M352 SAT exchanges localization information with transponders over a wide radius. The device is stationary and its location is mapped (XYZ) into the management software. It can be used as a stand-alone device using Power over Ethernet or 422/Ethernet with a separate power supply.

i-PORT M352 UHF-422 or -POE



An i-PORT M352 UHF-422 or -POE device provides real-time data collection and communicates with transponders wirelessly. The device can either be connected as a PoE-device or as a 422/Ethernet power with a separate power supply.

i-MARK S350 or i-MARK S350-ER



i-MARK S350 or -ER devices enable close range identification of objects within an adjustable radius of up to 1.5 meters (SR) or 3 meters (ER). Its ID is transmitted to any transponder in the close proximity. The device is stationary, only requiring a power supply, and works reliably when deployed in environments using metal shielding.

i-Q350L RTLS-AS



The i-Q350L RTLS-AS transponder is mounted to a selected object. The transponder calculates its position based on communication with at least three i-SAT units and broadcasts the information to i-PORT receivers. The transponder can receive and transmit data. It is equipped with a 3-color LED, a push button, and a motion sensor. The tag is powered by exchangeable batteries.

SOFTWARE

Asset Agent



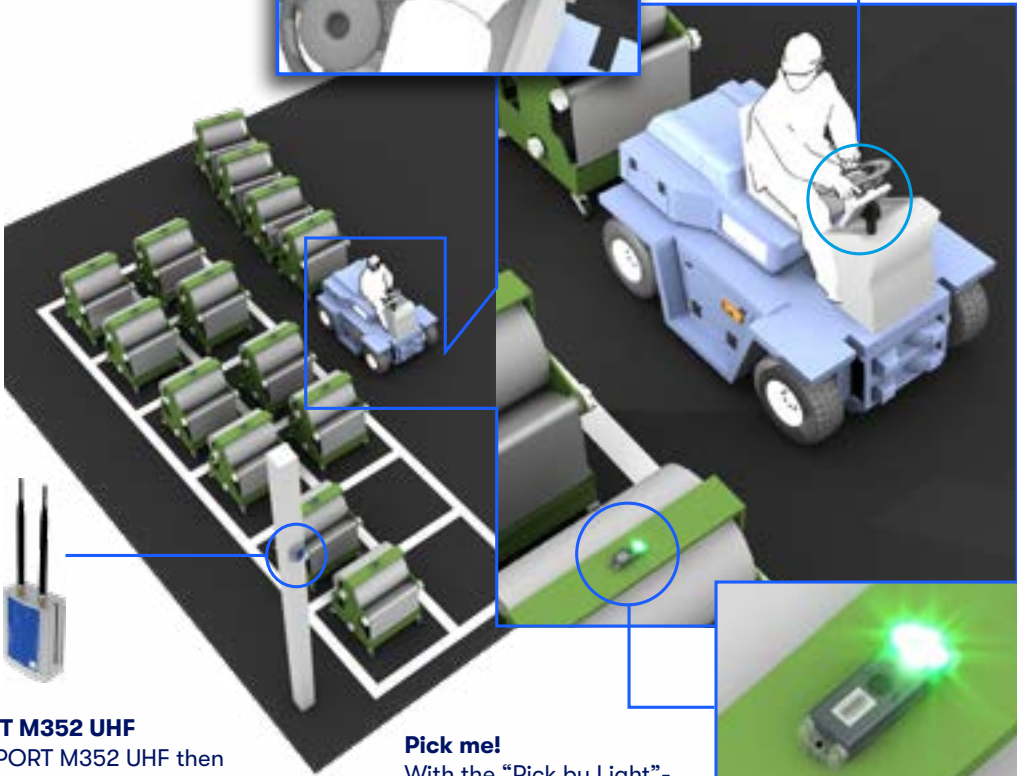
Asset Agent is a software that collects data from IDENTEC SOLUTIONS' infrastructure to visualize the tracking of objects equipped with an RTLS transponder. Fitted with a powerful positioning engine and innovative filtering capability, the software delivers high level position data. IDENTEC SOLUTIONS' system recognizes events triggered within a predefined zone, as objects enter or leave the zone. Location and routing data can be sent from Asset Agent to third party ERP systems.

LOCATE AND “PICK BY LIGHT”

In areas with a high accumulation of tagged objects locating the correct object can be difficult and time consuming. With the “Pick by Light”-feature an employee can activate a flashing LED on the transponder from a mobile device or a fixed station for fast localization.

Workorder search and pick

The employee first selects the object to be located on a mobile device.

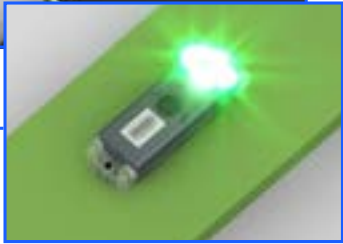


i-PORT M352 UHF

The i-PORT M352 UHF then sends the instruction to start flashing to the RTLS tag.

Pick me!

With the “Pick by Light”-feature an employee can precisely locate a specific object.



ASSET AGENT

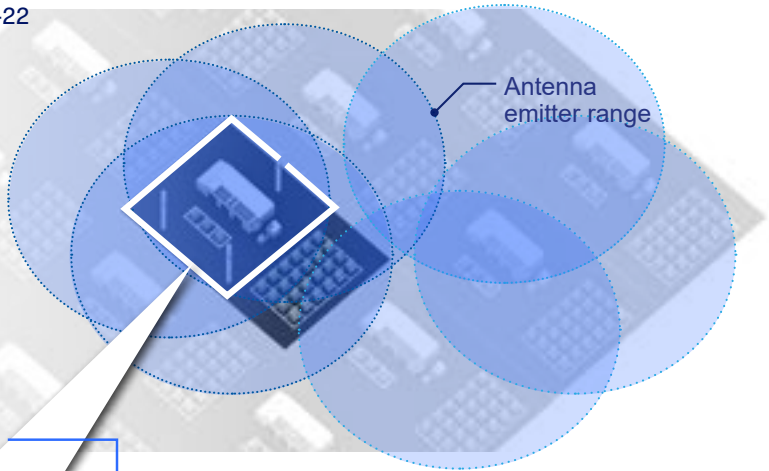
The Asset Agent solution is installed on-site and will identify and position objects. These positions are then mapped to zones and utilized in third party ERP systems. This automates the booking of objects or materials throughout the production process. Workers also have the ability to locate objects using the additional “Pick by Light”-feature.

Factory floor

This overview shows the overlapping signal fields of the i-PORT M352 SAT-422 or -POE devices on the shop floor.

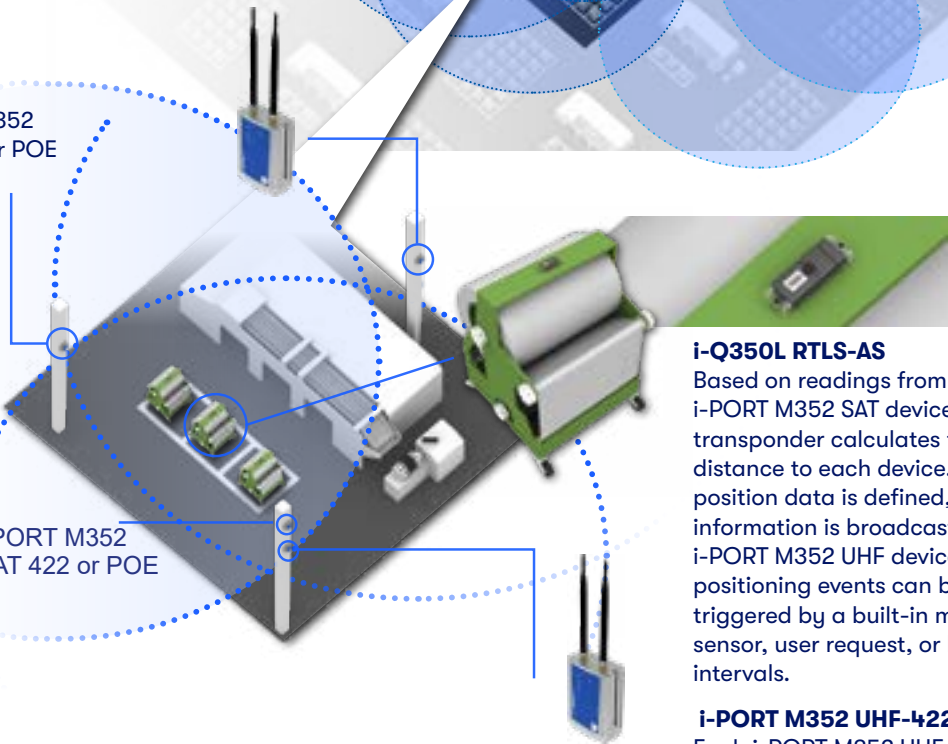
i-PORT M352 SAT-422 or -POE

Each i-PORT M352 SAT device is installed at a fixed position, a few meters above the ground. The XYZ coordinates of each i-PORT M352 SAT are mapped into the software.



i-PORT M352 SAT 422 or POE

i-PORT M352 SAT 422 or POE



i-Q350L RTLS-AS

Based on readings from the i-PORT M352 SAT devices, the transponder calculates the distance to each device. Once the position data is defined, the information is broadcasted to the i-PORT M352 UHF device. The positioning events can be triggered by a built-in motion sensor, user request, or by timed intervals.

i-PORT M352 UHF-422 or -POE

Each i-PORT M352 UHF reader is constantly scanning for messages from the RTLS transponders around the site. All information received by the i-PORT M352 UHF is forwarded in real-time onto the software for further processing.

CLOSE RANGE IDENTIFICATION

Close range identification systems can easily be incorporated into production machineries to identify the type of materials loaded into a machine, or objects passing through a predefined zone. Based on this data, a software service performs a verification and sends a signal to the user, confirming the accuracy of the operation.

i-MARK S350

The i-MARK is constantly transmitting an ID within an adjustable radius.

i-Q350L RTLS-AS

As soon as an RTLS transponder detects the vicinity of an i-MARK, it will transmit its own ID and the marker's ID.

i-PORT M352 UHF

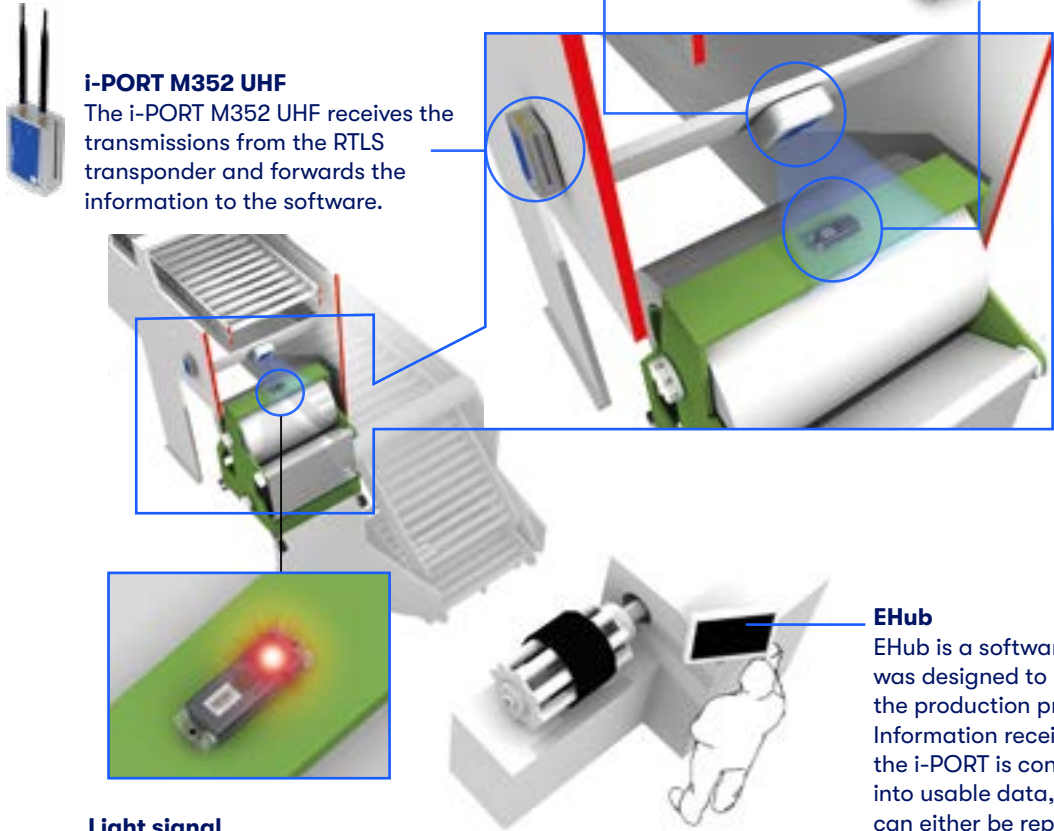
The i-PORT M352 UHF receives the transmissions from the RTLS transponder and forwards the information to the software.

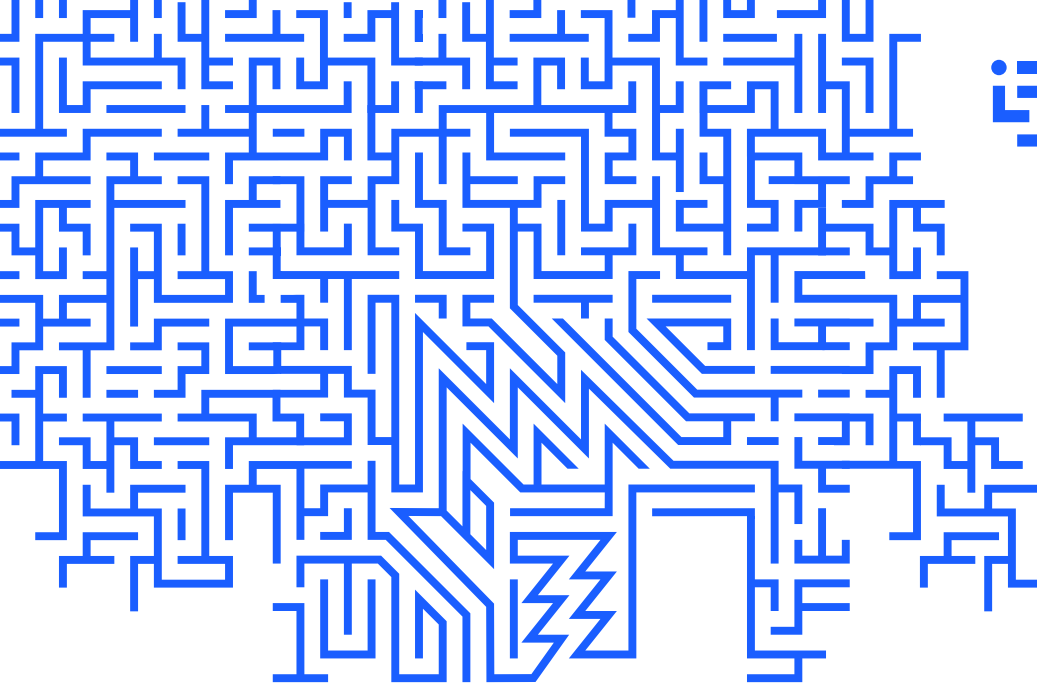
EHub

EHub is a software which was designed to monitor the production process. Information received from the i-PORT is converted into usable data, which can either be represented visually or sent to a third party ERP system.

Light signal

Each RTLS transponder is equipped with multi-colored LEDs. The emitted color and function can be individually configured to the customer's specific requirements. For example, the verification of materials in manufacturing plants can be prompted by triggering a green or red light.





Our solutions help
to make your team
more efficient saving
time and money

GO THE NEXT STEP

If you are interested to improve your company's productivity, reducing waste or increasing efficiency, feel free to contact us to learn more about Asset Agent. Asset Agent is a simple, highly scalable solution tailor-made to boost productivity in non-conveyor belt mass production processes. No user training required, plug & play with your ERP system like SAP EWM, ease of installation and fully adaptable to your expansion plans.

Call us now on +(43) 5577 87387-0 or visit identecsolutions.com and look for Asset Agent.



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BECAUSE IT WORKS