PRECISION FOR AUTOMATION. DRIVEN BY DATA.

Real-time locating with **SIMATIC RTLS**

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MARKET REQUIREMENTS →

DIGITAL TRANSFORMATION →

APPLICATIONS →

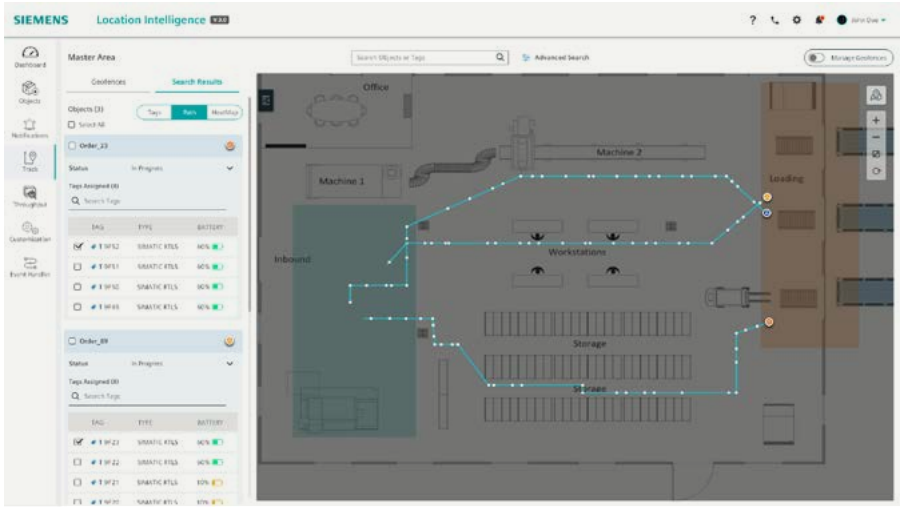
SYSTEM OVERVIEW →

COMPONENTS →

TRUSTED PARTNER →

Maximum transparency **for companies on the path to the future**

To survive on the market, companies need to make their traditional workflows in production and logistics more dynamic. This allows them to respond faster to market changes, optimize capacity utilization, and produce smaller batches. The key to achieving this is flexible, IOT-capable production and logistics concepts based on real-time data.

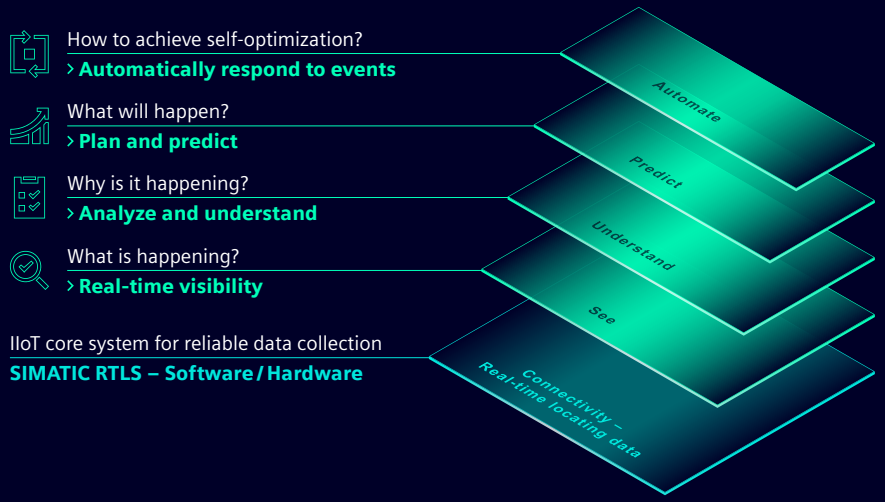


Get on your way – with a targeted approach to your digital transformation. Remove bottlenecks, boost your throughput, and increase your efficiency, even if you're just starting out on your digitalization journey. In combination with the Location Intelligence software, SIMATIC RTLS (real-time locating system) is a unique, complete solution that opens up totally new prospects for your production.

Complete, scalable solution for reliable real-time data on all movements in your production.

A crucial pioneer **for the digital transformation**

SIMATIC RTLS is a key solution on the path to the digitalized factory infrastructure of the future. Because SIMATIC RTLS provides higher-level systems with precise locating information of all production equipment involved. In the first step this creates transparency for events, and in the second step it allows you to analyze and understand processes – for example, in order to proactively plan for the future or respond promptly to imminent problems.



For data-based, predictive manufacturing

When connected to Manufacturing Execution Systems (MES), Enterprise Resource Planning (ERP) systems, or cloud-based applications, SIMATIC RTLS also makes it possible to trigger dynamic commands. Target systems like mobile robots, programmable logic controllers (PLCs), or automated guided vehicles (AGVs) can move around your company premises almost autonomously – always based on real-time locating information. Because intelligent systems need to know what's where and when at all times in order to be able to act and respond flexibly.

The complete SIMATIC RTLS solution achieves this accurately and reliably – for a digital twin of all processes in real-time, from delivery to further processing and final assembly.

The perfect combination of IT and OT in one system so that different applications can benefit from both worlds.

Completely new prospects **for entirely different applications**

With SIMATIC RTLS, you know exactly how your production resources are moving in the company, which in turn gives you maximum transparency. Locate all your relevant assets in real-time and customize the platform for your applications. The range of applications is almost limitless.

- Optimized logistics and production processes
- Maximum transparency thanks to indoor and outdoor locating
- Flexible infrastructure and paperless production

One of the main advantages of RTLS technology is the flexibility. If I modify a parking lot, it is now just programming effort – no additional hardware. This alone saves round about 50% of effort.

Jan Bass
Electrical Engineering and Process Control, BASF Coatings

Real-time locating with SIMATIC RTLS is the key to higher productivity and flexibility.

Lorenz Rappl
Plant Manager, Siemens Fürth

Stop searching. Start finding.

Shorten your search times. Whether it's workpieces, tools, AGVs, or even employees: SIMATIC RTLS lets you locate all your relevant assets in real-time with an accuracy measured in centimeters. As a result, you can eliminate time-consuming search processes and optimize your material inventory.

Significantly shorter search times

Locate any object with precision

Eliminate time-consuming search procedures

Optimize stock and prevent loss of material

Seamless locating **throughout company premises**

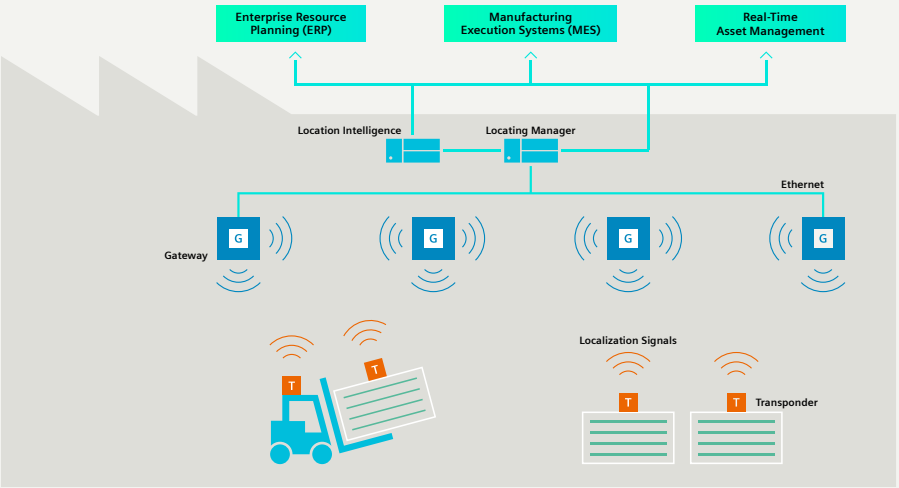
To locate all relevant production resources, you first need to equip workpieces, tools, AGVs, forklifts, etc., with SIMATIC RTLS transponders. A higher-level infrastructure picks up the transponder signals, calculates their position, and forwards this information to intelligent automation systems and manufacturing units, or it makes it available to higher-level systems – in real-time, dynamically, and precisely.

Accuracy down to centimeters

With SIMATIC RTLS, Siemens offers a comprehensive locating platform that leverages the advantages of innovative ultra-wideband (UWB) technology. For local wireless communication, an extremely wide frequency range (3–7 GHz) with a bandwidth of at least 500 MHz is used. This prevents interference with other systems. The result is extremely precise object locating with accuracy down to a few centimeters.

Scalable

SIMATIC RTLS can be adapted step-by-step to increasing demands. Extra units can be added to the individual components at any time, all the way to a company-wide infrastructure and with no additional configuration cost. This aspect also makes the technology attractive for companies that are taking their first steps toward becoming a digital enterprise. Gateways, transponders, and locating servers cover the entire locating infrastructure and, if desired, can be combined with our web-based Location Intelligence software.



Intelligent

Location Intelligence expands SIMATIC RTLS to include a digital twin of performance. Real-time analyses help you optimize processes, transportation routes, and the flow of goods. Thanks to much greater transparency, you can identify and eliminate bottlenecks because you know where the mobile objects in your production and supply chain are located at all times. This lowers costs and increases your plant's throughput as well as your competitiveness.

Ready-to-use middleware for immediate installation to quickly achieve valuable results.

The system components **for a flexible, adaptable infrastructure**

Take a giant step in the direction of the digital enterprise with SIMATIC RTLS. This locating system can be adapted to growing demands. Additional components can be added at any time without a lot of additional configuration cost. The following components can be found in the Industry Mall.

Gateways

Gateways are fixed reference points in the local infrastructure for real-time locating with an accuracy measured in centimeters. They record the transponder signals and give them a fixed position stamp. The positioning data is bundled and transmitted to the locating server.

Locating Manager

The Locating Manager is software that calculates the real-time position of the individual transponders and passes the details on to the higher-level systems via defined interfaces.

Transponders

Transponders are fitted to workpieces, containers, vehicles, etc., and transmit a signal at defined intervals. They can also be equipped with interfaces and transmit locating information directly to the local control system and make them accessible to higher-level systems.

Active transponder with e-ink display, two LEDs and configurable keys

Location Intelligence

This web-based software analyzes and visualizes motion data, processes events, and can be activated directly from local ERP or MES systems. The result is a seamless solution linking software and hardware, IT and OT, shop floor and top floor.

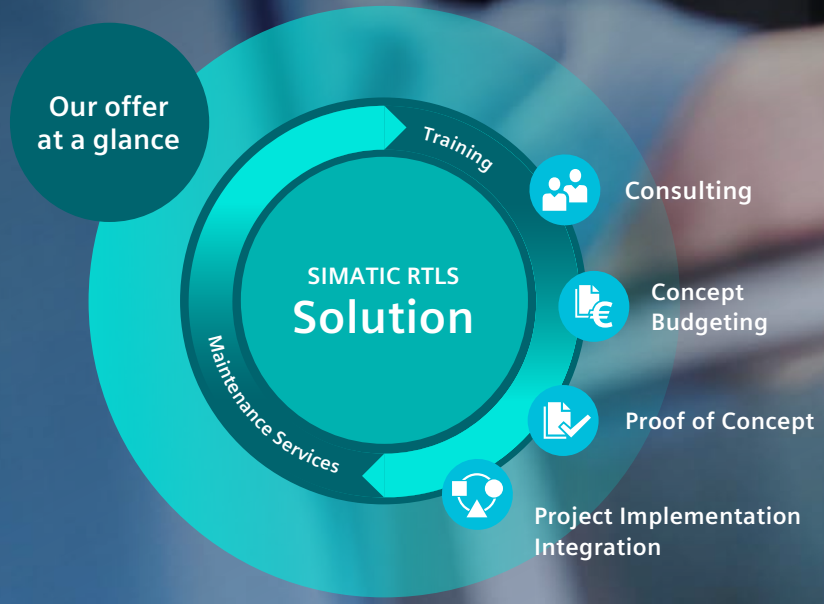
Your first choice **for digitalizing your company**

Siemens is your trusted partner when it comes to complete solutions for your digital enterprise. We have many years of expertise in the area of innovative technologies for industrial applications in production and logistics. SIMATIC RTLS includes all the components and services for various locating solutions.

Siemens is also your partner for long-term service and maintenance, providing everything from design, budgeting, implementation, and proof of concept to installation, commissioning, demonstration, and training. Our comprehensive global network is available to you wherever you need support. And you can be sure that our service experts precisely plan, execute, and document every step of the project.

SIMATIC RTLS – technology that drives Industry 4.0.

- A flexible solution for locating applications thanks to industrial scalability
- High future viability thanks to expandability to new applications or operating areas
- Smooth solution implementation thanks to comprehensive Siemens expertise
- Flexible integration into various IT systems and even cloud-based applications
- Accuracy and reliability in the industrial environment thanks to a robust design



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Security information
Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines, and networks.

In order to protect plants, systems, machines, and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens' products and solutions constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines, and networks. Such systems, machines, and components should only be connected to the enterprise network or the Internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g., firewalls and/or network segmentation) are in place.

For additional information on industrial security measures that may be implemented, please visit:
siemens.com/industrialsecurity

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates, may increase customers' exposure to cyber threats.

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