

SIEMENS

Ingenuity for life

Industrial Identification

Performance starts with Knowledge

[siemens.com/ident](https://www.siemens.com/ident)

Intelligent data management with Industrial Identification

Small batch sizes, the need to manufacture products of ever-increasing complexity in many different versions, an extremely high level of customization, and demanding processes with direct supplier involvement are creating major challenges for industry.

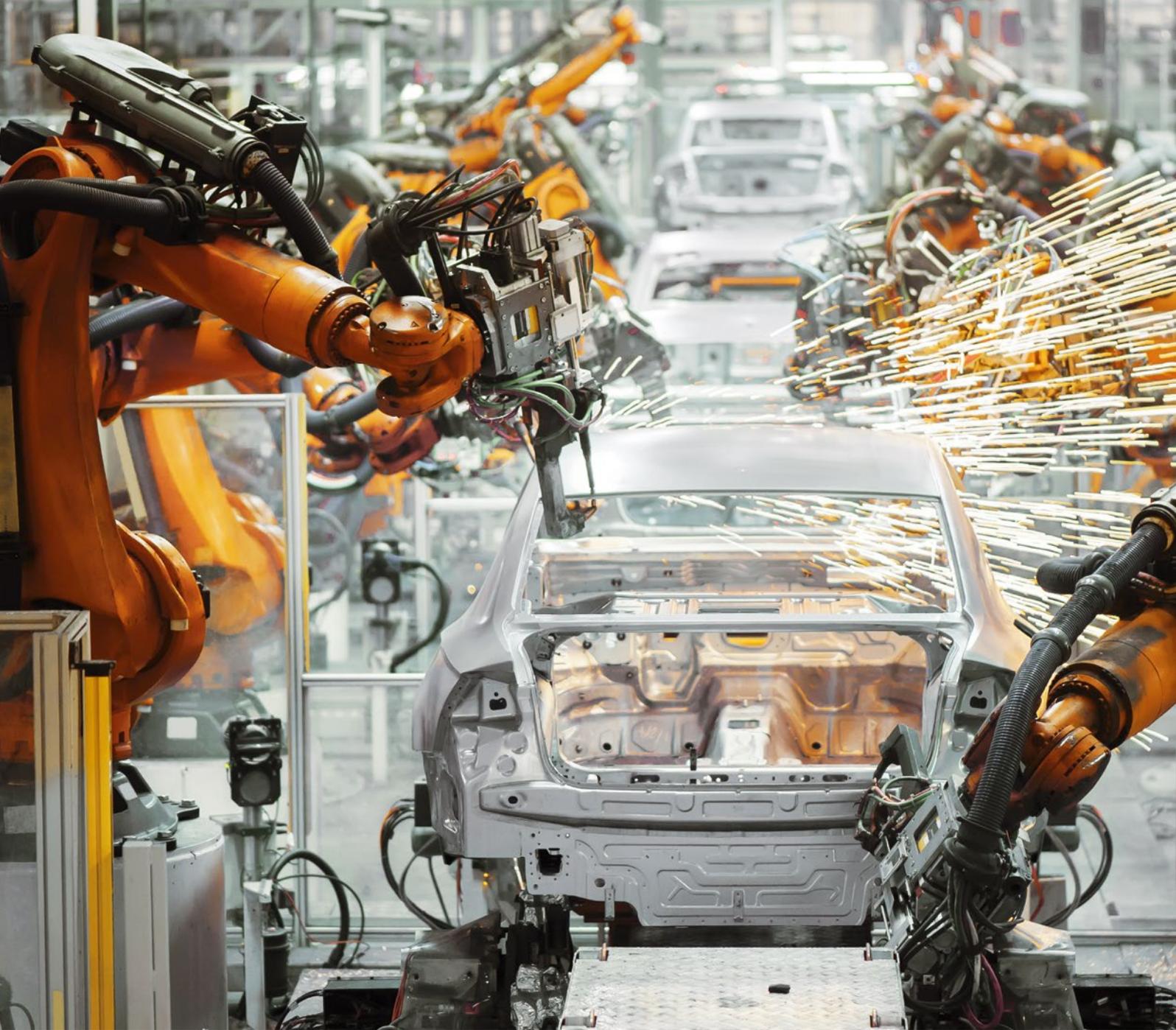
Siemens' response to these challenges is SIMATIC Ident, a uniquely comprehensive and scalable portfolio of radiofrequency identification (RFID) and optical identification systems for the flexible, efficient, and economical implementation of identification solutions in manufacturing and logistics.

SIMATIC Ident also supplies production data to cloud applications such as MindSphere, the cloud-based, open IoT operating system from Siemens, making it one of the key technologies on the path to digitalization.

The future lies in digitalization

Companies that want to remain successful in the future need to seize the opportunities offered by digitalization right now. That's the only way for them to curb costs, improve production quality, and increase their flexibility and efficiency. It also ensures short response times to customer requests and market demands.

Everything is built on a foundation of software and hardware solutions that seamlessly integrate and digitalize the entire value chain, including all suppliers – and Industrial Identification provides the key.



Industrial Identification creates transparency

Industrial Identification ensures maximum transparency along the entire supply chain, creating error-free process sequences and customized, top-quality production down to single-unit batches.

Digitalization also means: making suppliers part of the network

Suppliers become real partners when you make them a part of your network. Everyone benefits when suppliers and manufacturers form part of a greater whole.

Everything becomes more closely interlinked, and everyone can respond more quickly to changed requirements. Industrial Identification, a centerpiece of the digitalization of the future, is always in the background here.



Industrial Identification

Productivity needs precision

Industrial processes in the digital enterprise demand total transparency. The ability to gather and process data at strategically relevant points is more and more becoming a determining factor in achieving long-term business success. As a result, Industrial Identification is developing into a key technology for the Digital Enterprise. Our solutions close the gap between the real and the digital worlds – and create new potentials for our customers to add value.

Industrial Identification ensures the necessary transparency

What products or components are available, when, where, and in what condition?

This overview can be obtained using an innovative identification system. SIMATIC Ident synchronizes the virtual data flows from IT systems with the actual flows of goods along the entire value chain. In an industrial environment in particular, data transparency is increasingly becoming a key success factor.

Processes are becoming smarter and more flexible, economical, and efficient

Quality requirements can be met reliably, production can be much more flexible, manual work steps are reduced, and potential sources of error are detected immediately and remedied. This means: more efficiency in logistics, materials management, production, and service.

Comprehensive and consistent scalability – Solutions from Siemens

Siemens' response to these needs is SIMATIC Ident, a uniquely comprehensive and scalable portfolio of RFID and optical identification systems for the flexible implementation of identification solutions. The result: assured competitiveness and a flexible future.



Convincing advantages

- Complete, scalable portfolio of powerful RFID and optical readers
- Lower engineering costs: simple integration into the SIMATIC automation environment, for example, the TIA Portal
- High process security and fewer downtimes
- Very secure investment thanks to flexible and economical solutions
- Highest reliability as a result of components with a high protection class for use in rough industrial environments

Digitalization



SIMATIC Ident supplies production data to the cloud

Staying up to date with the entire production and supply chain means having to deal with huge volumes of data. This data comes together at a virtual level – in the cloud – to form the Internet of Things (IoT). But only the evaluation and the use of this data open up the unimagined potential. Siemens has developed a solution that can help make full use of these potentials: MindSphere, the open IoT operating system, supports the digital transformation of companies regardless of size or sector – and in an extremely short timeframe.

SIMATIC Ident – the easy way towards the digital future

Our UHF-RFID system SIMATIC RF600 and our new series of SIMATIC RF18xC communication modules support OPC UA as IoT (Internet of Things) interface. Automation systems can thus communicate independently of manufacturer, and standardized connections to cloud applications can take place via an Industrial IoT gateway such as RUGGEDCOM RX1400 with CloudConnect. As a result, the new communication modules also implement HF-RFID-based digitalization solutions in industrial automation and pave the way for connecting the SIMATIC RF200 and RF300 systems to the cloud. The optical readers within the SIMATIC MV500 series can be securely connected to MindSphere via the SIMATIC S7-1500 controller and CP1543-1 – opening up entirely new ways to use data.

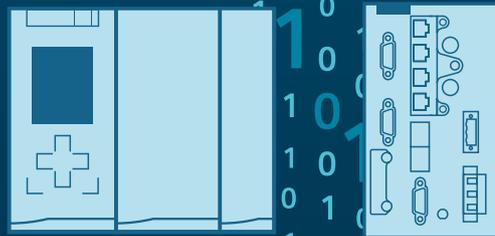
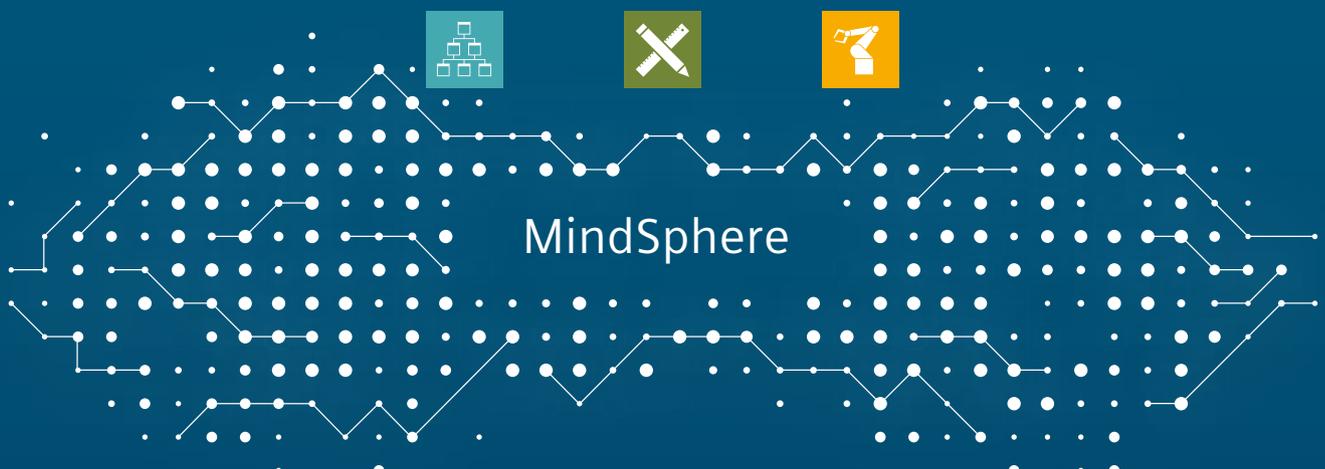
More data for greater transparency

Analyzing the data supplied to cloud applications by SIMATIC Ident makes the production and logistics process transparent, regardless of the manufacturer. This allows production processes and supply chains to be optimized with the goal of improving efficiency and quality in production, logistics, asset management, and other areas in every industry.

A cloud with vision

SIMATIC Ident and MindSphere are key elements in a successful digitalization strategy. And they lay the foundation for data-based services from Siemens. MindSphere enables this data potential to be tapped across the board. Predictive maintenance uses measured values and data detected by sensors for this purpose, facilitating proactive maintenance of plants and machinery and thus minimizing downtimes. The ability to use the data globally throughout the company helps to optimize supply chains, improve internal production capacity utilization, and increase supply quality – all of which ultimately benefits the customer.





What can we do for you?



Added value with our systems

Increasing the number of product versions makes both production and the supply chain more complex. It's therefore important to choose procedures that make both complexity and costs manageable. Tools and processes are the key to efficiently structuring the various tasks involved.

Do you want to be able to control your production flexibly, manage your assets efficiently, track products and components reliably, and synchronize your supply chain intelligently?

Our SIMATIC Ident products and solutions offer the best possible support.



Manufacture efficiently –
Optimize your production and material flow control



Assure quality –
Improve customer satisfaction



Create transparency –
Plan ahead



Manufacture efficiently – Optimize your production and material flow control

Machine-readable, automated, and contactless identification systems create improvements all along production and supply chains: manual work steps can be reduced, potential sources of error identified and avoided, and plant availability increased. Production can be structured more flexibly and can be made faster, even with a high level of customization. For example, the sequentially correct delivery of work pieces permits flexible planning of autonomous production steps, which prevents installation faults and the need to rework faults. You benefit from greater efficiency and economy in logistics, material management, production, and service in a wealth of variations.

Assure quality – Improve customer satisfaction

With SIMATIC Ident, every product leaves a digital trace that can be documented at every step, from the creation of the individual components to recycling. This means that fluctuations in product quality can be tracked and sources of error identified and rectified at an early stage. In logistics, the systems make it possible to identify, analyze, and rectify weak points in the process. Legal requirements – for example, in the pharmaceutical or food industries – can be reliably satisfied using Industrial Identification.



Create transparency – Plan ahead

What products or components are available, when, where, and in what condition? SIMATIC Ident provides fast and reliable answers to these questions. With RFID and optical reading systems from Siemens, all products and parts can be monitored in real time at all stages of the transport process, and external sequences can be better integrated into actual production.

And as the digital transformation progresses, we can achieve even more: virtual data flows and real product flows will come together to produce maximum transparency in both production and logistics processes. This makes it possible to not only analyze and visualize the track-and-trace information but also to ensure that the analyzed data is available worldwide. So that products arrive more quickly where they need to be: with customers.



Our solutions to suit your requirements:



Compact, robust, for every scenario

Industrial Identification systems allow to meet the constantly growing requirements in production and logistics. They are convincing thanks to their high level of data security, and they meet the growing demand for end-to-end traceability of products and processes.

RFID

Our RFID systems SIMATIC RF cover all kinds of requirements in terms of performance, range, and frequency range. You can be confident of complete transparency along the entire supply chain, so there's no need for a line-of-sight connection between the read/write device and the transponder.

Robust and compact readers class with a high degree of protection, with the option of an integrated or external antenna, are available to provide you with fail-safe data communications. Cost-efficient, maintenance-free, passive labels and passive transponders in a variety of designs and storage capacities are readily available, along with powerful antennas.

Optical Identification

The SIMATIC MV optical readers are powerful, intelligent readers for both simple, high-contrast 1D/2D codes and for hard-to-read DPM codes marked on different product surfaces. The optical readers also provide the option of text and object recognition and verification of the quality of marking. The readers in the SIMATIC MV family also score high thanks to their high-quality image capture at different resolutions and integrated lighting. The readers can thus be used in a variety of ways in production and logistics. Ease of handling is ensured by the ability to configure the device using Web Based Management and system integration via the TIA Portal.



Achievements honored

Our SIMATIC RF600 and RF300 product series are convincing not just because of their internal value. Their winning features can be seen on the outside, too – and prominent design juries have agreed.





SIMATIC MV500
High-end reader device with powerful image capture

SIMATIC MV500 not only offers maximum performance when reading 1D/2D codes, with up to 80 reads per second, but it also features a high degree of reading reliability even under the harshest conditions.



SIMATIC MV400
High reading accuracy and speed

SIMATIC MV400 identifies both simple, high-contrast 1D/2D codes and hard-to-read DPM codes marked on the product. The system makes it possible to read codes and text and to recognize objects simultaneously in a single image.



SIMATIC MV300
High reading accuracy and speed

SIMATIC MV300 are hand-held optical read devices for high-performance 1D/2D code reading, even for low-contrast codes. The robust and economical design is especially appropriate for use in manual workstations.



SIMATIC RF600
High-performance UHF system for global supply chain solutions

SIMATIC RF600 is a state-of-the-art scalable UHF RFID system for production and logistics. In addition to a read/write range of several meters, it also offers a high reading speed and the option of bulk reading.



SIMATIC RF300
High-performance RFID system in the HF range

SIMATIC RF300 is a high-performance RFID system for the most stringent demands in terms of speed and data volumes, with extensive status and diagnostic functions.



SIMATIC RF200
Compact solution for the medium power range

SIMATIC RF200 is the compact RFID system in the HF range. The product series includes cost-efficient readers that are ideally suited for applications in intralogistics or in small assembly lines. Readers with an IO Link interface are provided for especially simple and open identification solutions.



SIMATIC RF1000
Access control for machinery and plant

SIMATIC RF1000 offers an RFID-based solution for easily and flexibly implementing electronic access management. Existing employee ID cards are used as the basis for identification.



Communication Modules
Seamless integration into automation

Communication modules are available to seamlessly connect the SIMATIC Ident devices to the automation or IT level. The new RF18xC communication modules pave the way for connecting HF-RFID systems to the cloud.

Practical examples:



The real benefits of Industrial Identification

Industrial Identification provides huge benefits, including a faster time to market, more flexible manufacturing, and control over production involving many different variations. Industrial Identification facilitates just-in-time production, reduced inventories, automatic receipt/retirement, and overall quality improvements. It also provides the ability to plan more accurately and guarantee traceability and compliance with legal requirements: for example, for tracking and tracing in the pharmaceutical industry. But most impressive are the benefits at the project level.

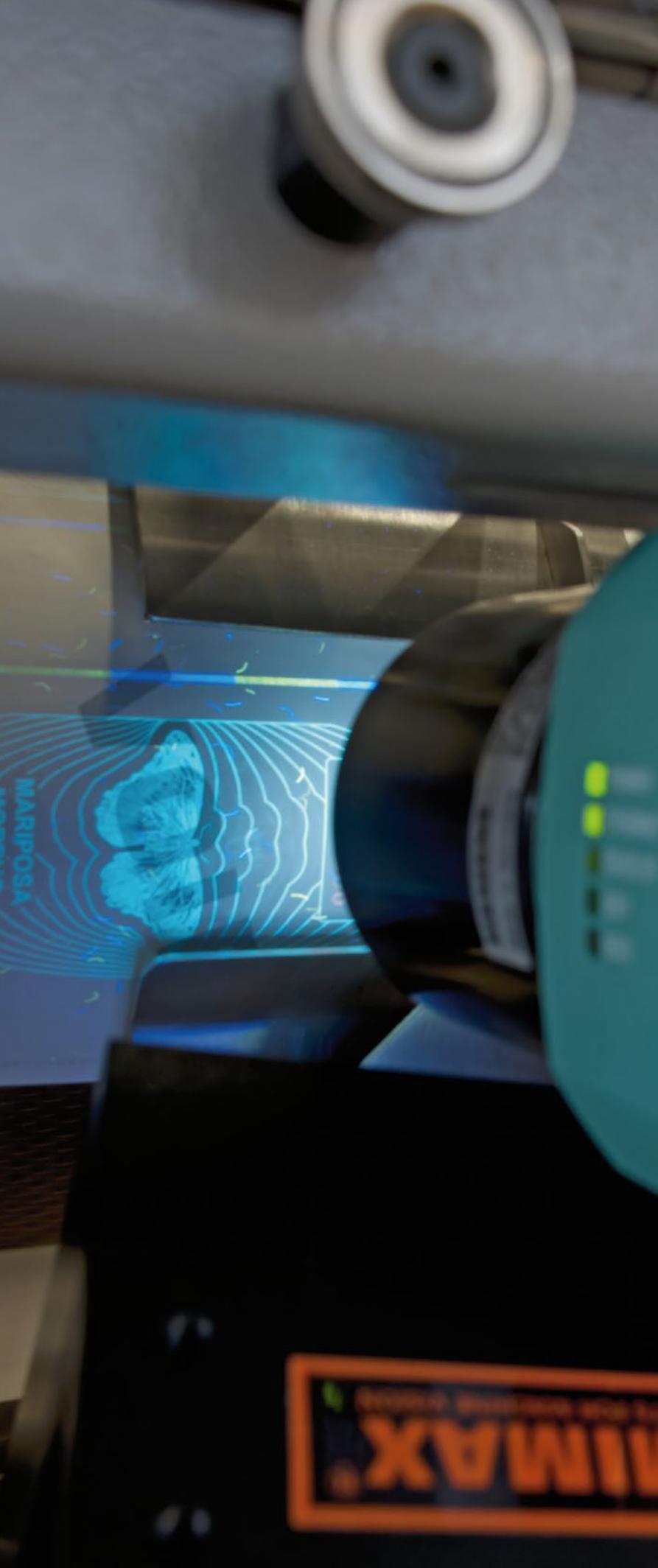


► **Faurecia Automotive Exteriors, Pappenheim, Germany: optimized process and product quality in the manufacture of automobile exterior components**

Customer requirement: to make processes in the production and distribution of bumpers and rocker panels even more efficient and transparent, and improve product quality even more.

Our solution: use of the SIMATIC RF600 UHF system and the "TAGpilot" middleware from TAGnology Systems GmbH. Instead of using a handheld scanner, the parts are automatically and contactlessly identified using RFID antennae during the visual checking stage, and the associated testing screens are displayed.

Result: top-level process and product quality. Employees can perform their tasks more quickly and with greater accuracy. No additional software is needed for the commissioning process.



▼ **Kugler-Womako GmbH, Nürtingen, Germany: lightning-quick passport control and maximum process security**

Customer requirement: a passport producer needed a solution in which passport pages pre-numbered with UV-readable security ink – and on paper containing fluorescent fibers – had to be checked to ensure the right sequence during collation of the individual sheets into passports.

Our solution: SIMATIC MV440 optical readers with “learning” capability and a standard resolution of 640 x 480 pixels, along with an OCR+ license extension and UV flash lighting custom-adapted to the task supplied by iiM AG. The devices were integrated via PROFINET and a SCALANCE X208 switch directly into the automation network.

Result: the solution was implemented in just three weeks. The direct connection of the readers to the machine communication and the application program also turned out to be very straightforward.

Why choose Siemens? What's special about us

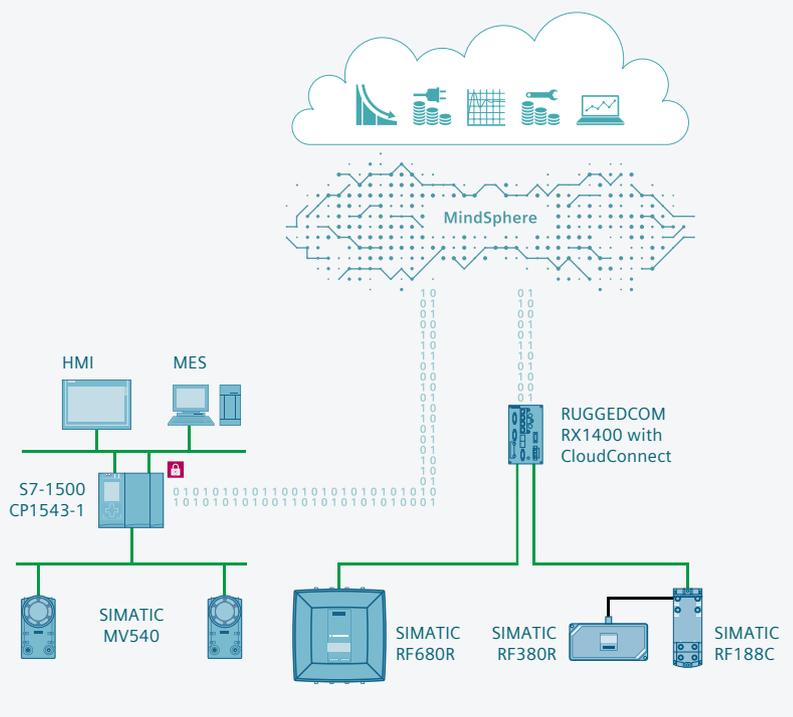
Siemens AG is the only company anywhere in the world that already has a fully integrated portfolio covering all aspects of digitalization. We've acquired more than 30 years of experience in the fields of RFID and optical identification, and we've always been a driver of innovation. Hundreds of businesses around the world benefit from our technology. But that's not all:

Maximum flexibility for our customer's requirements

We're one of the few providers with an integrated portfolio – from the field level to the cloud: RFID systems for production and logistics, locating systems and optical readers. We provide objective, technology-neutral consulting, which makes us both a professional and a reliable partner. Ident customers get the best possible solutions from us.

Unique skills for comprehensive solutions

Customers benefit from our many years of experience in technology and our comprehensive automation and integration expertise. We, in cooperation with Siemens world-wide, can also offer wide-ranging professional solutions and industry know-how.



SIMATIC Ident supplies data to cloud applications



Our future security is your future security

Our customers' investments are future-proof, because subsequent technology upgrades can be implemented in the automation landscape easily and flexibly: for example, using standardized functional modules with no need for costly changes (migration strategies). Likewise, when expansions are required, the existing identification solution can be developed using technology-neutral principles. Complete identification

solutions can be implemented and expanded in this manner.

Integration in TIA and the IT environment

This, too, is unique worldwide: the integration of SIMATIC into the TIA environment. This effectively turns the product range into the solution. Integration into the IT environment is another solution that only a few suppliers can offer. Our integrated reader technology can be used in

both PLC and IT environments, so our products become the link between real and digital processes – in every sector.

Benefits at a glance

- Integrated product range for Industrial Identification, locating, communication, and security – unique around the world.
- A harmonious portfolio landscape makes everything easier: for example, programming, maintenance, commissioning, and diagnostics.
- Vertical integration: integrated reading technology.
- Horizontal integration: from production to logistics, in other words, the entire value chain.

- Expertise in digitalization and Industrie 4.0.
- Support for a range of protocols including PN, EIP, OPC UA.
- Connection to cloud applications such as MindSphere, the cloud-based, open IoT operating system from Siemens.

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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 an 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](https://www.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 customer's exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed under [siemens.com/industrialsecurity](https://www.siemens.com/industrialsecurity)