



SIEMENS



Industrial identification for sustainably efficient processes

Extensive portfolio of RFID and code-reading systems for
seamless transparency in every industry

SIMATIC Ident

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SIMATIC Ident: Comprehensive portfolio for industrial identification, today and in the future

You want flexible control of your production, efficient management of your assets, reliable tracking of products and components or intelligent synchronization of your supply chains. And that is exactly what industrial identification from Siemens delivers. With SIMATIC Ident, Siemens offers you a range of RFID and code-reading systems of unrivaled scope and integration that deliver the perfect identification solution to safeguard your competitive ability and make your business flexible for the future.

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Industrial identification for sustainably efficient processes

When is which product or component in which location and what is its status? SIMATIC Ident will supply the answers quickly and reliably. Machine-readable, automated and contactless identification systems synchronize virtual data streams in the IT systems with the actual flow of goods and ensure maximum transparency – not only in production processes, but also in the external logistics processes. Advantages are created along the entire supply chain: quality requirements can be reliably met, production can be more flexibly structured, the number of manual operations reduced, and potential sources of faults recognized and removed instantly. With SIMATIC Ident you will benefit from greater efficiency in logistics, material management, production, and service.

Radio or optical – it depends on the application

Depending on the application in question, one of two main technologies is used in the industrial environment: Radio frequency identification (RFID) based on radio waves or optical code-reading systems for the recognition of 1D codes (barcodes), 2D codes such as data matrix codes (DMC), and optical character recognition (OCR) of plain text. These extremely reliable technologies ensure the gap-free traceability of products and components along the entire manufacturing, purchasing or dispatch process. By choosing SIMATIC Ident, you are opting for an integrated portfolio for industrial identification – ranging from code readers and RFID systems up to the integration software.

Industrial identification – the benefits for you at a glance:

- Seamless traceability
- Improved quality
- Compliance with legal requirements
- Faster time-to-market
- More flexible production
- Just-in-time and just-in-sequence logistics
- Optimized inventories and thus lower costs
- Fast delivery



Identification systems: RFID and optical codes

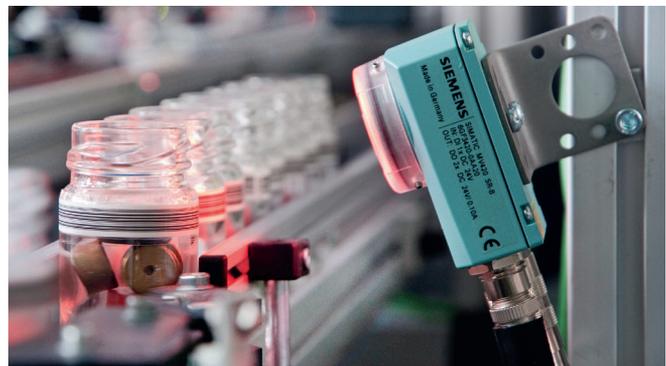
Whether barcode, DMC, RFID or OCR: Each technology has its specific strengths. Optical character recognition, for example, is used wherever information must also be read by people, such as the use-by dates on food products. 2D codes and RFID are renowned for their high level of data security and have proven their worth, even in the toughest industrial environments. The decisive criterion for an identification system: your individual application.

Verification, identification: Code-reading systems

If increased performance is required, 2D codes are recommended as an alternative to a barcode, since they offer a higher storage capacity and a better read rate. They can be applied cheaply to products, together with dispatch labels, for example. In addition, they enable direct part marking (DPM) of the products by means of lasers, printing or dot-peening, making them especially good at withstanding external influences. 2D codes can always be read reliably, even from acute viewing angles or under poor lighting conditions. With SIMATIC code-reading systems, we supply you with the ideal solution for reading and verifying 1D and 2D codes – for reliably tracing of production batches throughout the production plant.

Identification, mobile data storage: RFID

Whenever there is no direct line of sight between recording device and identification label, if larger amounts of data are required over greater distances, or if stored ID data needs to be modified at any stage, then RFID is the answer. Here the product or object is fitted with a memory chip that can be programmed and read using radio techniques. With low-cost smart labels available for logistics, rugged data memories for assembly lines as well as transponders with a wide range, RFID is perfectly suited to a variety of different applications. Our intelligent SIMATIC RF system family offers you transparency without gaps. For example, data is available at any time along the entire production and distribution channel – for the perfect control of material flow and logistics.



Siemens – the right partner for trendsetting industrial identification

Siemens is aware of the strategic significance of industrial identification and has made consistent advances in this field for over 30 years. We can offer you an extensive and scalable portfolio of hardware and software – supplemented by process advice, system integration and project management. It goes without saying that we also implement complete identification solutions from A to Z and all from a single source. With us as your partner, you can rely on our sound knowledge of your technology and industry.

Benefit today from the solutions of the future

With Totally Integrated Automation (TIA), our open system architecture for company-wide automation and its SIMATIC core technology, the comprehensive and integrated automation system, we can supply you with a complete automation portfolio from a single source. The consistent application of proven standards and the implementation of open, expandable architectures facilitate the system integration of all components into the automation and IT environment. And you secure the use of future-proof identification solutions today – for sustainably optimized and economical processes.

SIMATIC Ident: industrial identification from a single source

- Over 30 years of experience
- Broad range of identification systems (RFID, 1D/2D code-reading systems, OCR), interface modules and software for a huge variety of applications
- Fully automated, rapid identification with 100% transmission reliability
- Components with a high degree of protection for industrial use, immune to temperature fluctuations and contamination
- Wide range of tags – from smart labels to transponders with 64 KB capacity
- Flexible communication with the automation system: serial, via PROFIBUS, PROFINET or Ethernet
- High-performance integration into higher-level IT systems (ERP, MES, SCM)
- Seamless integration into SIMATIC reduces engineering costs
- Support of global standards





Flexible processes for economical and versatile production

SIMATIC Ident enables you to set up an absolutely reliable and efficient make-to-order production process.

Thanks to flexible production and material flow control, you can meet demands for a greater variety of product variants throughout the manufacturing process, satisfy individual customer requirements, and strengthen your competitive capability.

Meeting the rising challenges

An ever-increasing variety of products and versions, shorter development and delivery cycles and unforeseeable fluctuations in demand: the individualization of mass production presents the manufacturing industry with enormous challenges. SIMATIC Ident ensures unique identification of the products, thus enabling flexible control of production and material flows. This facilitates the completely individualized manufacture of products – all the way to unique specimens – and without retooling delays. SIMATIC Ident enables varied, yet economical production to be realized.

Make-to-order production using SIMATIC Ident

SIMATIC Ident ensures complete transparency – the prerequisite for an absolutely reliable and efficient make-to-order production process. Let's take the automotive industry as an example: in this case, the sequentially correct delivery of workpieces and their unique identification permit autonomous production steps in flexible production stations. This prevents installation errors, delays and reworking faults. Further advantages: significantly less complexity in the engineering, greater plant availability, and minimal downtimes – thanks to the high level of automation and the rugged identification technology. In addition, rewritable data tags enable distributed automation architectures to be established.

Bäcker Schmidt KG, Heideck

A fresh, wide variety, and high quality every day – a bakery control system with SIMATIC RFID keeps track.

Requirements:

- Reliable, contactless identification of mixing vessels and their contents via radio
- Modernization of the proven bakery control system with RFID technology
- Use of the UHF RFID system under difficult radio conditions in a stainless steel environment

Solution:

- Application of the SIMATIC RF600 RFID system from Siemens with the small, linear polarized RF620A antenna
- Transponders (RF640T tags) are fitted to all mobile mixing vessels

Customer benefits:

- Recipe data, kneading times, temperatures, and rest periods for all doughs are checked automatically and error-free
- Simple integration into the control system and flexible for expansions
- One single employee can easily handle dough production alone





Optimized use of resources for greater performance and lower costs

SIMATIC Ident simplifies the management of your assets such as tools, containers or plant components.

The stock can be recorded in real time and the actual status determined precisely. Thanks to gap-free documentation, you avoid wastage, make better use of capacity, and benefit from optimized maintenance.

Assets at a glance – costs under control

When is which asset in which location and what is the status? SIMATIC Ident supplies the answers quickly and reliably. Siemens identification systems record the movement and status data of all assets, providing a precise snapshot of stock – in real time. This means that asset utilization can be monitored perfectly at all times and optimized specifically according to stock quantity, capacity and maintenance. Further benefits: significantly reduced error rates and avoidance of wastage. Unused goods can be identified and returned to the process or removed from it, as required. SIMATIC Ident reduces process costs and

contributes toward more economical production. Thanks to standardized data structures and interfaces, the efficient use of reusable transport items (RTI) is considerably easier – even in widely distributed logistics networks.

Perfect management of assets

The use of identification technology is especially recommended in closed loops. The more expensive and more maintenance-intensive the containers, the greater the advantages. In the chemical industry, for example, SIMATIC Ident permits the exact documentation of all maintenance work on the device itself.

Sachsenmilch AG, Wachau

RFID helps this large-scale dairy factory to increased flexibility, elimination of reading errors, and interruption-free tracking of batches.

Requirements:

- Optimization of pallet management through retrofitting of powder bagging area with RFID pallets and UHF readers
- Limited space between the process plants and a required insensitivity to external influences
- Compliance with new hygiene standards

Solution:

- Use of compact, space-saving SIMATIC RF620R UHF readers with integrated antennas
- EPC standard for pallet tracking without visual or touch contact with flexible system integration

Customer benefits:

- Increased flexibility, elimination of reading errors, and interruption-free tracking of batches
- Problem-free cleaning and maintenance work thanks to integrated construction
- Functional safety thanks to design with IP65 protection



Maximum transparency – over the entire product lifecycle

With SIMATIC Ident, each product leaves a digital trail that can be traced and documented seamlessly back to the origin of its individual components. In this way, product properties and quality can be reliably assured and verified in the context of legal requirements.

Complete product history

Fluctuating product quality and faulty products are critical factors in production. Yet it is usually difficult to pinpoint the weakness – especially where a number of processing stages are connected in series in different systems and sometimes even in different companies. With SIMATIC Ident, you can guarantee seamless tracking and tracing of products. Because the changes to the actual status and location generate a digital trail that leads back to the origin of the product. If this also includes components or ingredients of a product, its properties and quality can be dependably assured and verified.

Increase in quality of production and logistics

SIMATIC Ident permits the tracking of product quality variations down to an individual machine. Errors can be detected and eliminated at an early point in time. RFID and code readers from Siemens enable systematic detection, analysis and elimination of process weak points in logistics applications. A further motivation for tracking & tracing with SIMATIC Ident: compliance with existing legal requirements. In the pharmaceutical industry, for example, it is easier to identify counterfeit medications, to reliably comply with statutory regulations, and to guarantee maximum safety for patients.



Daimler AG, Bremen

Using the innovative SIMATIC MV440 code-reading systems, Mercedes-Benz in its Bremen factory optimizes the reliable identification and interruption-free recording of process data for the SL series.

Requirements:

- Optimization of continuous recording of process data of the SL body-shell production section at the Mercedes-Benz factory in Bremen, Germany
- Retrofitting to data matrix code-reading systems for unambiguous assignment of body components to specific vehicles in the SL production

Solution:

- Optimization of identification technology with SIMATIC MV440 code-reading systems
- Parallel data mapping of production steps at MES level for linking of process data

Customer benefits:

- Reliable identification and interruption-free recording of process data for the SL series
- Optimization of identification technology guarantees totally integrated process data documentation for the complete body shop

Intelligent control of complex networks

SIMATIC Ident allows transparent and optimum planning of highly complex supply chains which extend beyond company and country boundaries. All relevant information is available in real time, facilitating automatic synchronization of internal and external processes. As a result, supply bottlenecks and downtimes can be avoided, warehouse stock can be optimized, and profit margins increased.

It's all go in the supply chain

Suppliers are frequently located far away from the manufacturer of the end product. The result: global delivery chains that require expert synchronization and coordination. SIMATIC Ident can help here. RFID and code-reading systems from Siemens allow real-time tracking of all individual parts on their transport path and permit external sequences to be integrated better into the actual production process. This means that parts can be processed in the correct order as soon as they arrive at the factory. SIMATIC Ident enables synergies to be discovered in the network, processes to be increasingly automated, and the system capacity to be maximized. So that products get to where they should be sooner: with the customer.

All-round optimization

Identification solutions from Siemens make your flow of goods completely transparent – and thus controllable. They make it possible to respond just-in-time, to avoid out-of-stock situations, to rapidly detect and eliminate weak points, and to reduce wastage and fakes to a minimum. For example: SIMATIC Ident can be used in logistics to track the flow of goods in real time with precision down to individual articles, to increase warehouse turnover, and to shorten freight handling cycles. Your advantages: reduced costs, increased profit margins, and satisfied customers thanks to higher product availability, wider choice, and fast service.

Gelco GmbH & Co. KG, Gelsenkirchen

The Gelco fashion mail-order company uses state-of-the-art RFID and control technology from Siemens to ensure its long-term delivery capacity.

Requirements:

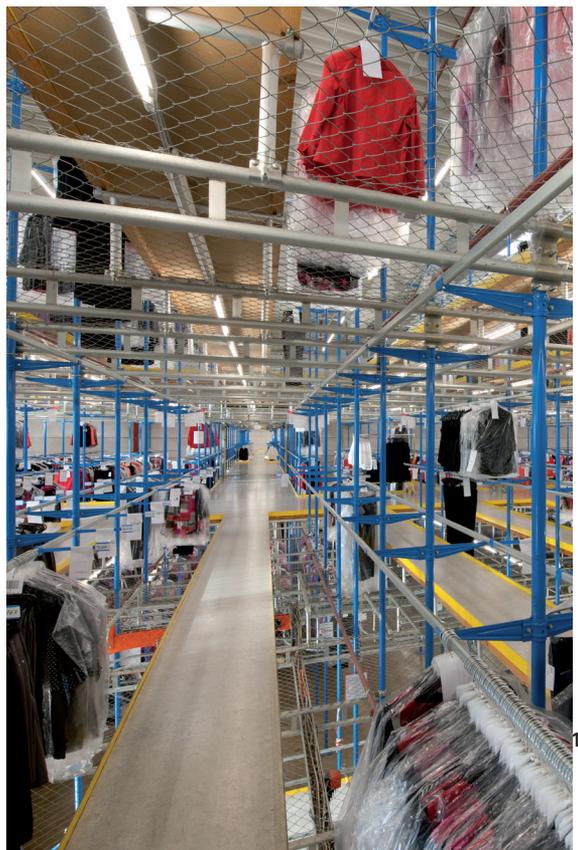
- Modernization measures for trouble-free delivery by equipping the internal goods transportation system with RFID technology
- Conversion on a maximum of three days over a weekend to reduce impaired deliveries during retrofitting

Solution:

- Combination of the SIMATIC S7-300 PLC with PROFINET-capable CPU 319-3 PN/DP and the SIMATIC RF300 RFID system with 6 000 mobile data storage units (MDS D160)
- Successive mounting of data storage units and the associated spacers, and networking via PROFINET already preinstalled with the plant running

Customer benefits:

- Implementation of the new automation solution in only two and a half days
- Trouble-free operation since conversion
- Ordered articles are correctly shipped automatically and effectively



Properties and areas of application

SIMATIC RF200 – compact for standard HF applications

Ideal for industrial use on small assembly lines or in intralogistics: Compact system design, supports ISO 15693 transponders which are economical, low-maintenance, and suitable for tough environments.



SIMATIC RF300 – power for the HF range

Optimally suitable for production and material flow control: The scalable, maintenance-free and rugged system is particularly suitable for contactless identification in closed production sequences.



SIMATIC RF600 – impressive in the UHF range

For versatile use in production applications and production-related logistics: with their long range, this great selection of UHF write and read devices allows many possible applications. The high reading rate minimizes errors and accelerates processes.



SIMATIC MV300/MV400 – code-reading systems

The SIMATIC code-reading systems quickly and reliably recognize every type of 1D/2D code on various surfaces, even under difficult conditions. The devices are compact and scalable, and offer multiple connection options.



Production control	Material flow	Tracking & tracing	Asset management	Supply chain
<ul style="list-style-type: none"> • Average data throughput • Average storage capacity • Limited range • Indirect identification • Closed loop 	<ul style="list-style-type: none"> • Medium range • Indirect identification • Closed loop 	<ul style="list-style-type: none"> • Low-cost data tags • Open standard • Direct identification • Open loop 	<ul style="list-style-type: none"> • Low-cost data tags • Open standard • Direct identification • Open loop 	
<ul style="list-style-type: none"> • High data throughput • Large memory • Limited range • Indirect identification • Closed loop 	<ul style="list-style-type: none"> • Medium range • Small storage capacity • Indirect identification • Closed loop 			
<ul style="list-style-type: none"> • Open standard • Medium range • Small storage capacity • Direct identification • Closed loop/ open loop 	<ul style="list-style-type: none"> • High range • Small storage capacity • Direct/indirect identification • Closed loop 	<ul style="list-style-type: none"> • Open standard • Low-cost data tags • Direct identification • Open loop 	<ul style="list-style-type: none"> • Large range • Open standard • Low-cost data tags • Direct identification • Closed loop 	<ul style="list-style-type: none"> • Low-cost data tags • Open standard • Large range • Bulk detection • Indirect identification • Open loop
<ul style="list-style-type: none"> • Flexible range • Direct/indirect identification (DPM*) • High reading speed • Open standard • Closed/open loop • Position determination • Low-cost product marking 	<ul style="list-style-type: none"> • Flexible range • Direct/indirect identification (DPM*) • High reading speed • Open standard • Closed/open loop • Position determination • Low-cost product marking 	<ul style="list-style-type: none"> • Flexible range • Direct/indirect identification (DPM*) • High reading speed • Open standard • Closed/open loop • Position determination • Low-cost product marking 	<ul style="list-style-type: none"> • Flexible range • Direct/indirect identification (DPM*) • High reading speed • Open standard • Closed/open loop • Low-cost product marking 	<ul style="list-style-type: none"> • Flexible range • Direct/indirect identification (DPM*) • High reading speed • Open standard • Closed/open loop • Position determination • Low-cost product marking

* Direct Part Marking

The varying application requirements and wide range of possible applications for our identification systems mean that individual system consulting is usually necessary. The identification specialists in our application support department will be pleased to help you. Please contact your local Siemens representative.

One portfolio – limitless options

SIMATIC Ident represents flexibility and future compatibility. Siemens not only supplies you with both identification technologies from a single source, but also offers perfectly coordinated components. You profit from seamless integration in the SIMATIC and SINUMERIK controllers – and a totally integrated system landscape in accordance with ISO and EPC standards.

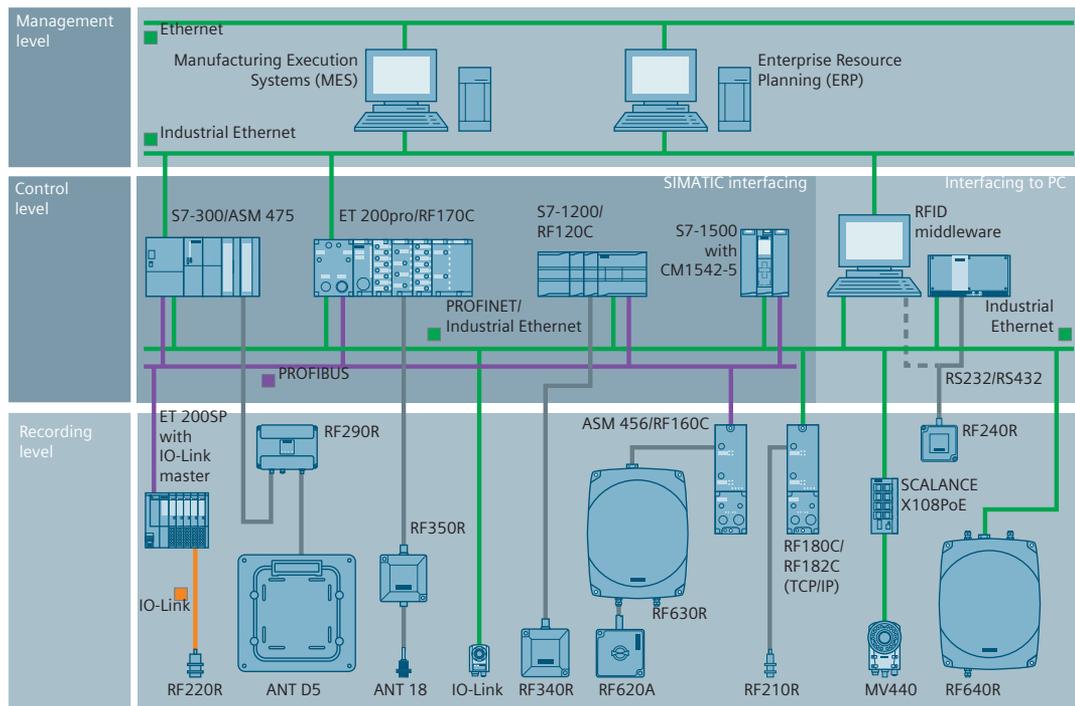
Homogenous industrial identification

Depending on the application and requirements, RFID and code-reading systems can be used in parallel in the same production line: for example, DMC for direct marking on products and RFID for pallets or workpiece carriers. Here, too, SIMATIC Ident proves its superiority: common communication modules and function blocks provide seamless integration of the two identification technologies into PROFIBUS, PROFINET or Industrial Ethernet systems. This provides you with a uniform software architecture, and significantly reduces workload and costs for engineering, commissioning, and maintenance.

Highlights

- Simple block for interfacing to the control level
- Configuration and parameterization in the TIA Portal
- Easy programming of all identification systems in the SIMATIC PLC
- Comprehensive diagnostics functions facilitate commissioning and maintenance
- Support of standard profile (PNO) allows connection of identification systems to PCs and PLCs from other manufacturers

Identification technologies complement each other: integration into the automation or IT landscape is via standardized interfaces.



Professional and systematic: A closer look at the SIMATIC Ident portfolio

Regardless of the industry or sector: SIMATIC Ident makes a tailor-made, integrated identification solution a reality. This is made possible by our technical expertise, our extensive project experience, and the fact that our complete range of hardware and software is open and integrated and complies with all requirements of international standards.

SIMATIC RF200: compact RFID system for standard HF applications

SIMATIC RF200 is ideally suited to industrial use on small assembly lines or in intralogistics. The system supports ISO 15693 transponders, which are particularly economical and low-maintenance while also being suitable for tough industrial environments. The compact design also enables them to be used on assembly lines where space is at a premium. Readers with the interface version for IO-Link are available for simple identification tasks.

SIMATIC RF300: Powerful RFID system in the HF range

Ideal for production and material flow control: the scalable, maintenance-free and rugged SIMATIC RF300 system is particularly suitable for identification in the closed production loop. Depending on the demands on the performance of the identification system, different versions of the system are available.

SIMATIC RF600: powerful RFID system in the UHF range

Thanks to its extended range, SIMATIC RF600 is the first choice not only for applications in production, but also in production-level logistics and distribution. The extended range of UHF write and read devices offers a wide variety of options and impressively high reading rates. The benefit: fewer errors and faster processes. SIMATIC RF600 works reliably even at very high temperatures, in the vicinity of metal, or in complex radio environments. The result: maximum availability, an improvement in process quality, reduced maintenance requirements, and significant cost savings.

SIMATIC MV300/400: flexible code-reading systems

SIMATIC code-reading systems are able to reliably and quickly recognize every type of 1D/2D code – on the widest variety of surfaces and even under difficult ambient conditions. The handheld readers as well as the compact stationary code readers are extremely flexible and scalable, as well as being ideally suited to product tracking, production control, verification, and optical character recognition (OCR). Another plus point: the host of lighting, communication and connection options.



Find out more:

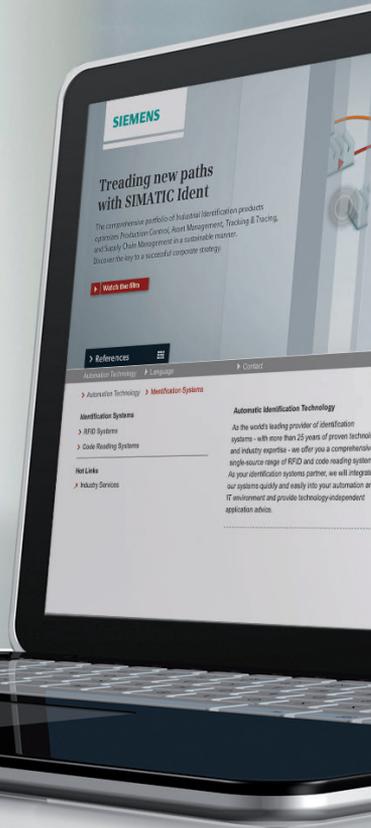
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SIMATIC Ident

As the global market leader for identification systems with more than 30 years of experience and industry expertise in the field, Siemens offers a comprehensive range of RFID systems and code-reading systems from a single source.

With Siemens by your side, you can expect simple system integration at the automation and IT levels, as well as technologically-neutral application consulting.

SIMATIC
Ident –
take a look!



Subject to change without prior notice 08/13
Article No.: E20001-A310-P871-X-7600
Dispo 06353
WÜ/61410 WS 11141.0
US Order No.: FSBR-0A310-0315
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