

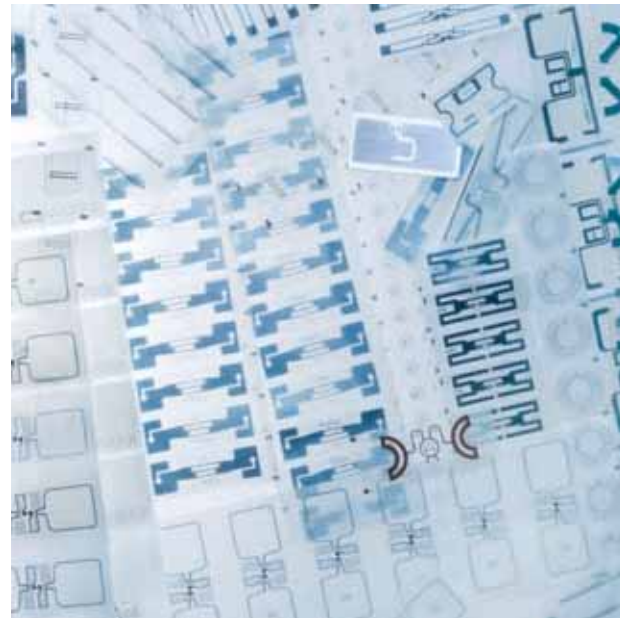
Information about the new technology in trade and retailing

METRO Group and RFID



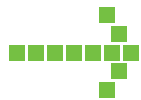
METRO Group
Future Store Initiative

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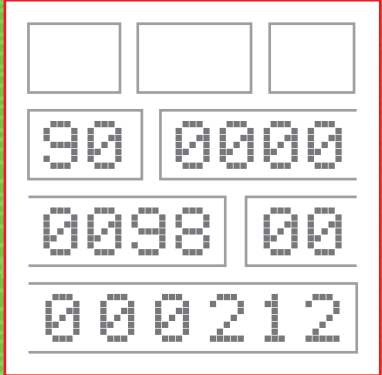


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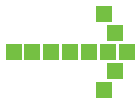
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An antenna and a tiny computer chip:
this is what an RFID transponder looks like.



RFID stands for Radio Frequency Identification. It is a technology that allows data to be registered automatically via radio waves.

What is RFID?



RFID is not an entirely new technology. In fact, it has been in use since the 1970s in many different commercial sectors, such as aviation and container logistics. And in recent years, giant strides forward have been made with the technology. For instance, new applications have now been developed that increase the safety of patients or the quality of products.

Efficient processes

In healthcare, RFID is already helping hospitals in New York, Milan, Duisburg and Jena to optimize treatment for their patients while simultaneously reducing administrative costs. The technology is also being used to protect the environment: one Bremen-based waste disposal company has used RFID to link its fees to the number of waste collections, and in the process has created an incentive to reduce waste. Radio Frequency Identification can also be of great use when it comes to the future disposal of electronic waste. Since tagged components can be automatically identified, it is easier and faster to reprocess them.



Increased safety

RFID is also being combined with sensor technology to create a whole range of new applications for the technology. For example, in a pilot project conducted by the Stuttgart-based company Gehe Pharma, Radio Frequency Identification and sensors were used to document the route taken by light-, temperature- and moisture-sensitive medication along the supply chain. If the temperature exceeded a certain critical level during transport, the system would automatically send a warning signal.



Container type: roll box



Lot number



Roll box number

TAKING STOCK: ROLL BOXES

AT SWISS POST

4



Positive identification

At the heart of RFID technology is the Smart Chip – a tiny computer chip with an antenna. In retail and the consumer goods industry, these chips are attached to logistic units, retail units or individual products, for instance using adhesive labels. These Smart Chips store a special number, known as the Electronic Product Code (EPC).

This number enables logistic units and products to be uniquely identified. The EPC is linked to information in a database – such as manufacturer, shipping date, price, weight and best-before date – which authorized users can call up using a dedicated software application. Whenever a reading device scans the EPC, the code is entered into the company’s merchandise management system, which is then automatically updated. This makes it possible to pinpoint the exact location of goods equipped with Smart Chips at all times.



Swiss Post uses RFID to tag the roll boxes used for transporting packages. The aim is to improve the availability of the transport containers.

Transmission via radio waves

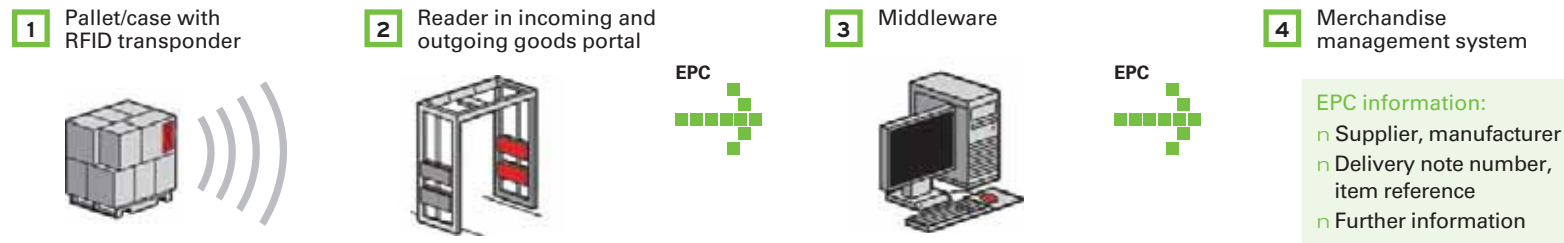
RFID readers can register the EPC automatically, without the need for optical contact. To achieve this, the reader generates an electromagnetic field which is received by the Smart Chip's antenna and activates the chip. The transponder then responds by sending the stored code. Data can be read from within a range of a few centimeters to several meters, depending on the frequency range and design. The waves emitted by the RFID reader are similar in strength to those of a mobile phone. The technology employed by METRO Group complies entirely with the strict international guidelines for maximum permitted radiation levels.

Uniform standards

Standardized international specifications are vital for the successful implementation of RFID technology. They ensure that goods, data and services can be exchanged smoothly between different organizations and even

different countries. Companies that use internationally accepted standards are able to speed up their business processes, thereby saving time and costs. Consequently, retailers and manufacturers are working together to develop uniform regulations and to establish these on the market. Standards organizations such as EPCglobal offer an ideal platform for this.

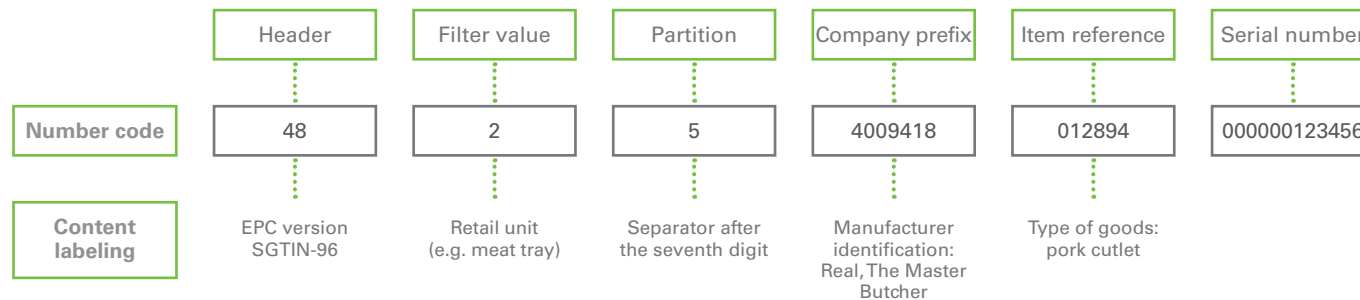
Founded in 2003, this international organization numbers many prominent members, including METRO Group. Its membership includes numerous major companies as well as international RFID experts. Within the framework of EPCglobal, they are working together to develop technological and commercial standards for RFID that will ensure that the hardware and software used by different manufacturers are perfectly compatible. These standards will also bring about other benefits, such as optimum read results. ■



For authorized users only: the EPC is linked to product information, such as manufacturer, weight and best-before date, which is stored in a database.

The Electronic Product Code (EPC)

What EPC information is stored?
(Decimal example)



The Electronic Product Code (EPC)

The Electronic Product Code (EPC) takes the number system used in the barcode and adds a unique serial number. Its binary structure makes it possible to allocate an individual number to each article. The EPC is divided into sections of varying length which encode the following information:

- Header: Which EPC version is used?
- Filter value: Is it a pallet, case, package or item?
- Partition: At which point are the company prefix and item reference separated?
- Company prefix: Which company produces the product?
- Item reference: What type of good is it?
- Serial number: Which individual object within an item reference is meant?

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Radio Frequency Identification is very versatile. Applications based on the technology help to make our everyday lives safer and easier.

RFID in everyday use

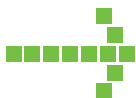
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Increased safety: Jena University Hospital is testing RFID to manage medication in a pilot project.



The precursors to RFID technology date from as far back as World War II. The Allies used a similar technology to protect their aircraft by equipping them with a system called IFF – Identification Friend or Foe – which made it possible to distinguish enemy aircraft from Allied planes. Today, a wide variety of further applications illustrate the enormous potential of Radio Frequency Identification. Because of its broad spectrum of possible uses, RFID is also termed a ‘cross-sectional technology.’

Healthcare

Improved service for patients, increased treatment safety and rising competitive pressure: clinics and hospitals have to live up to ever-growing performance expectations and requirements. RFID helps them to cope with these demands. For instance, it can allow doctors and nurses to precisely monitor the dosage and administration of medication or quickly trace the whereabouts of expensive surgical instruments: costs are greatly reduced without any loss of service quality. For example, at Jena University Hospital, an RFID system monitors the provision of medication to patients in intensive care – from the hospital pharmacy to the patient’s bed. All packs of drugs are tagged with an RFID transponder which stores a code that is linked to database information such as expiration date, prescribed dosage and patient name. In order for the medication to be allocated digitally, patients wear an RFID bracelet on their wrists. Using handheld readers, nursing staff can cross-check the prescription against the database entry, making sure patients always receive the correct medication. In addition to this, relevant information can be called up quickly in emergency situations.

Public transport and tourism

More and more transport providers are making use of Radio Frequency Identification. Smart Chips integrated in tickets allow mobility without manual ticket checking. For example, the Moscow Metro’s ‘Transport Card’ is equipped with an RFID chip which allows ticket holders immediate access to the underground system. In the Dutch capital of Amsterdam,

visitors can purchase the ‘I amsterdam Card,’ a multifunctional card with an integrated transponder that gives holders access to public transport and to key tourist attractions in the city. Cardholders can avoid queues, manual ticket checks and no longer need to root around in their wallets for small change to buy tickets.

Logistics

Radio Frequency Identification increases the speed and security of logistics processes. In aviation logistics, for example, the technology helps to prevent baggage loss. Wuhan Airport in China is a good example: the airport has introduced an RFID system to optimize its luggage handling.





A HEALTHY CHOICE:

RFID AT THE JENA

UNIVERSITY HOSPITAL

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Suitcases and bags are equipped with 'bag tags,' allowing them to be tracked within the airport's luggage area at all times. Other industry sectors also use RFID to trace the route taken by their products. For example, telephone system producer Siemens Enterprise Communications Manufacturing (SECM) tags all devices from its 'OpenStage' line with RFID transponders, allowing contactless identification of every single telephone via radio waves. This helps optimize delivery and service processes and allows companies to inventory their telephones very quickly.

Animal breeding

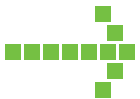
Hamburg's Hagenbeck Zoo uses Radio Frequency Identification to provide maximum care to its animals. So far, around two thirds of the animals there have been tagged with RFID. Zookeepers inject a Smart Chip under the animals' skin shortly after birth. The code stored on the chip is linked to database information, for example about the exact identity of the animal, its age and medical history. It is also possible to track the animals' feeding behavior – for example, in areas that are equipped with special read points.

Administration

The organization of offices and authorities can be simplified considerably through the use of RFID. For example, Detmold District Court in Germany has tagged its files with RFID transponders. Before a document is filed away, the user scans it with a reader which is linked to the filing system. The location of each file is saved in the database, meaning that important documentation can be found quickly at the beginning of a trial, and costs can be reduced. ■

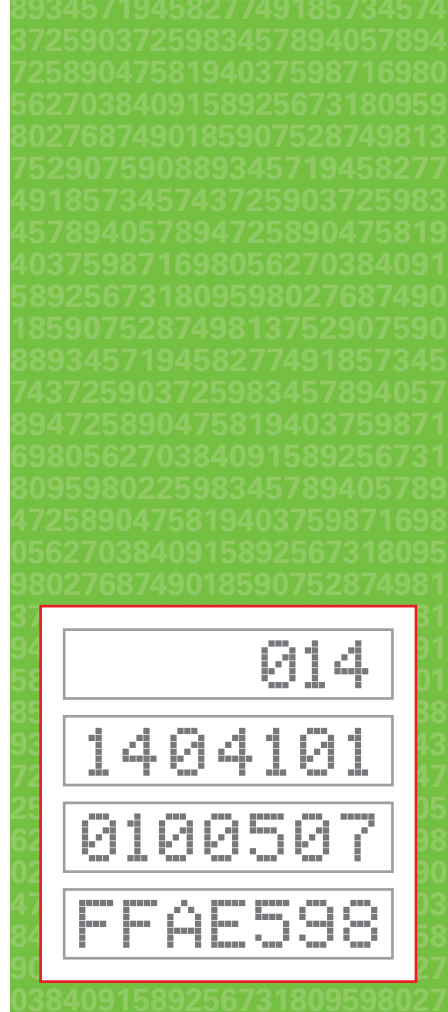
In the hospital pharmacy at Jena University Hospital, medication is packed in bags and tagged with transponders.





These days, Radio Frequency Identification is a permanent fixture in many economic sectors. Companies from the retail, logistics, consumer goods and automotive sectors in particular have discovered the benefits of contactless data transmission.

Portal for incoming goods in a Siemens logistics center: thanks to RFID, deliveries can be registered without physical contact.



The market for RFID applications is growing. In Europe, German companies are market leaders in the development of RFID-related products and services.

Importance for business

However, the potential of the technology has by no means been fully tapped: experts predict that the worldwide market volume for RFID will increase fivefold over the next ten years – from approximately €3.3 billion in 2008 to approximately €16.5 billion in 2018.¹

Technology with potential

German companies not only make up a significant share of RFID users, but many are also key producers of the technology. Medium-sized companies in particular have become competitive high-performance providers. The spectrum of goods and services ranges from transponders for tagging products to software components and complete systems. Estimations indicate that the RFID business in Germany could increase its sales revenue to approximately €1.4 billion by 2010.²

Growing demand for transponders

The huge market potential for RFID technology is also reflected in the growth in the number of transponders and readers being used. Experts believe that some six million RFID readers will be used at 450,000 locations in Europe by 2022, by which time 86 billion transponders will also have been sold. By then, around a quarter of all nonfood retail products are expected to be tagged with transponders, as well as five percent of all food items.³

A question of price

One of the crucial factors affecting RFID's wide-scale use is the price of Smart Chips. Prices vary according to design, technical sophistication and the volume produced. Passive transponders that are produced in batches of up to 10,000 and have to meet special requirements can currently cost between €0.50 and €1.00 apiece. At a volume of one million transponders, the price varies from €0.05 to €0.10.

Tailor-made products

RFID offers industry more effective ways to vary product design. With the aid of automated processes, it is possible to implement customer-specific solutions. A prime example of this is the automotive sector: RFID makes it possible to inexpensively produce a car according to customer specifications by automatically identifying and locating all selected components. This approach results in new business for the companies in question as well as creating additional jobs both in and beyond the IT sector.



¹Source: IDTechEx: RFID Forecasts, Players & Opportunities 2008–2018.

²Source: Federal Ministry of Economics and Technology (BMWi): RFID: Perspectives for Germany.

³Source: BRIDGE (Building Radio frequency IDentification solutions for the Global Environment): European Passive RFID Market Sizing 2007–2022.

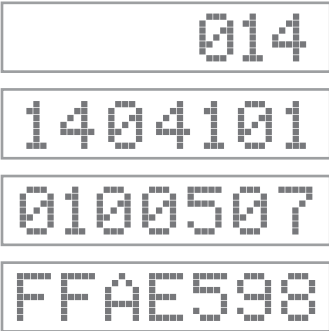
Intranet of Goods

In future, RFID will enable the retail sector to precisely document the route taken by deliveries – in an 'Intranet of Goods.' In this closed inter-company network, participating industry partners use a secure connection to call up product- and process-related data on goods tagged with transponders. Every time a shipment is registered by an RFID reader at any point along the supply chain, the relevant entry is automatically updated in the database. This enables authorized users to determine at any time where goods are located, what stocks are still available and which articles

have already been sold. This knowledge can be used to further optimize their processes.

Political support

Politicians have also recognized the economic importance of RFID technology and approved measures to support it. As part of its high-tech strategy, the German government has budgeted a total of €1.2 billion up



STOCKTAKING AT THE PUSH OF A BUTTON?

NO PROBLEM FOR TELEPHONES WITH SMART CHIPS!



until 2009 for the further development of information and communications technologies such as Radio Frequency Identification. The Federal Ministry of Economics and Technology (BMWi) has provided €40 million in financial support for the program 'next generation media – networked private and professional worlds.' A dialog platform for representatives from business, science and society is also being planned to coordinate research and sponsored projects. RFID is also attracting considerable attention at a European level. The seventh EU Framework Program for Research and Technological Development has already made around €9 billion available for promoting information and communications technology. ■

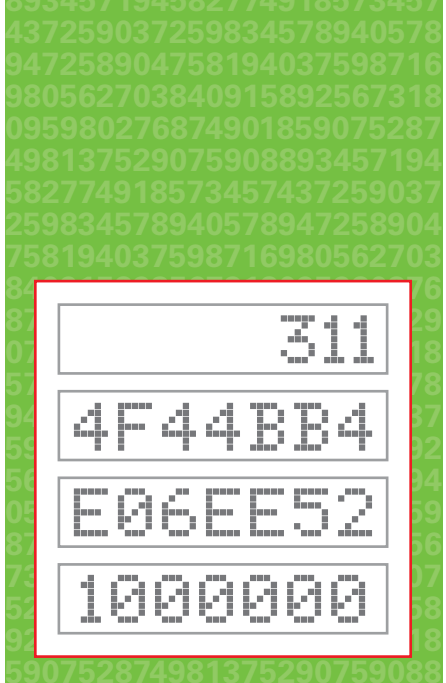
Growth market RFID 2007-2022 (in Europe)

Year	2007	2012	2017	2022
Transponders purchased (in million) p.a.	144	3,220	22,400	86,700
Locations with RFID readers	2,750	30,710	144,000	453,000
Readers used	7,630	176,280	1,161,800	6,268,500

Source: BRIDGE (Building Radio frequency IDentification solutions for the Global Environment):
European Passive RFID Market Sizing 2007–2022.

Insight into production: telephones from the 'OpenStage' line produced by Siemens Enterprise Communications Manufacturing (SECM) are fitted with RFID transponders.



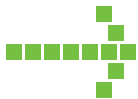


Fragile goods: Glaskoch tags its deliveries to METRO Group with RFID. Nowadays, its vases and other products reach the shelves more quickly.

RFID makes it possible to improve the efficiency of many retail processes. Customers can be provided with services that are geared to their specific needs.

Benefits





Greater process efficiency and the unique identification of items: whether in production management, healthcare, aviation or animal breeding, the benefits of RFID are being reaped in a wide variety of sectors. Successful application of the technology in the retail and consumer goods industry has benefits for manufacturers, dealers and consumers.

Service for consumers

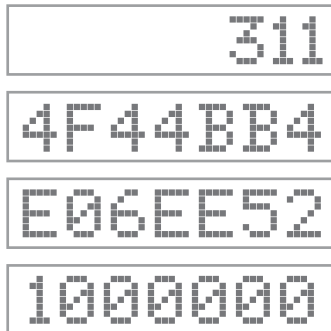
Thanks to RFID, customers know that the product that they are looking for will always be in stock. The technology helps ensure that shelves in stores and outlets are constantly replenished. If an item is running low, the retailer's IT system generates a warning that allows the store manager to order new goods in time. And that's not all: RFID labeling also makes many other innovative service applications possible. Now customers have



the possibility to call up further information on a product, such as its place of origin, best-before date or ingredients. Services like this are particularly beneficial to people with allergies or special food requirements.

Efficiency for the retail sector

RFID allows the retail companies to trace the route of goods deliveries along the entire supply chain, making it possible to determine the current location of a delivery at any given time. They know exactly when a shipment leaves the manufacturer's warehouse and when it arrives at the store. Incoming and outgoing goods can also be processed quickly and efficiently thanks to contactless data transmission. Manual checks are no longer required.



It is also easier to monitor and regulate warehouse inventories. Labor-intensive manual stocktaking is now a thing of the past, as stock can be counted at the push of a button using an IT system. And now that the up-to-the-minute inventory status can be seen at any time, warehouse capacity can be used more efficiently and shortfalls can be avoided. The advantage is that increased availability of goods also leads to higher sales and market share in the long term. The use of RFID at the consumer-goods level opens up even more possibilities. For example, products that are tagged with transponders are protected against theft, and it's easy to keep tabs on the best-before date of food products.

Planning stability for the industry

When an article is sold out, customers often turn to competitors' products. Thanks to RFID, consumer goods manufacturers can avoid supply bottlenecks, manage their capacities more effectively, and reduce delivery errors. If the stocks of a specific article fall below a certain level in a store's

READ IN,

STICK ON,

SEND OFF



warehouse, retailers are informed via an IT system. They can then order further supplies from their industry partners, who in turn can produce according to demand, thereby saving on warehousing costs. RFID is also extremely useful when it comes to managing merchandise. For example: a manufacturer can automatically compare the items in a consignment with the retailer's order before giving a shipment the go-ahead. This means that it is no longer necessary to record the goods manually.

Every logistic unit – pallet, case or hanger-goods shipment – that is tagged with an RFID transponder is given a unique identity. This is particularly important in the event of a product recall. RFID allows shipments or batches of faulty merchandise to be identified and efficiently removed from store shelves without delay. In the future, the technology will also help to combat brand piracy and counterfeit goods. A tagged article can be traced all the way back to its original producer. ■

Adhesive labels with integrated RFID transponder: these allow Glaskoch to give its product deliveries an unmistakable identity.



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METRO Group is already using RFID throughout the whole company to make processes in its logistics operations and warehouse management more efficient than ever.

RFID in action at METRO Group

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Extreme cold: tests at the deep-freeze warehouse in Hamm have shown that RFID achieves good results even at very low temperatures.



METRO Group started deploying RFID along its supply chain as early as 2004 – one of the world’s first major retailing companies to do so. This step-by-step deployment involves introducing RFID from manufacturers’ production sites all the way to the incoming goods portals in the stores and beyond. Using this technology, the group has been able to optimize its logistics and warehouse management, speed up operating procedures, and improve the availability of goods for its customers.

Group-wide rollout

By the end of 2008, METRO Group had already introduced RFID at around 400 locations throughout Europe, including all of its German Metro Cash & Carry wholesale stores, nine distribution centers belonging to the group’s logistics provider MGL METRO Group Logistics and the majority of its Real hypermarkets. In fall 2008, the company also initiated the nationwide rollout of RFID in France, where its 89 Metro Cash & Carry wholesale stores now process around 1.3 million pallets every year using the technology. METRO Group is working very closely here with the logistics company DHL, which tags all pallets for Metro France with transponders.

From the producer to the store

Around 180 consumer goods companies are already involved in the introduction of RFID in Germany. They tag all pallets bound for METRO Group’s stores and

warehouses with transponders. These Smart Chips store the Electronic Product Code (EPC), which provides every pallet with a unique identity. At the outgoing goods portal, an RFID reader registers the EPC and, in a split second, compares the delivery with the actual order. If everything is correct, the goods are approved for dispatch and the producer sends an electronic confirmation to METRO Group. Trucks then transport the delivery to one of the central distribution centers. Here, the pallets are registered by the RFID readers at the incoming goods portal. Warehouse staff then re-sort the pallets for the various METRO Group stores and reload them onto delivery trucks. At the outgoing goods portal there is another automatic check via RFID. The information and the delivery date are electronically transmitted to the stores. When the trucks are unloaded at the store, RFID readers





EFFICIENT PROCESSES, FULL SHELVES:

RFID IN THE DEEP-FREEZE WAREHOUSE

automatically compare the delivered goods with the order. The incoming goods are then entered into the database. This means that store managers always know exactly which products they need to reorder and when.

Tested under extreme conditions

RFID is also making a major contribution when it comes to optimizing warehouse management processes. For instance, at Germany's largest deep-freeze warehouse, MGL METRO Group Logistics' distribution center in Hamm in North Rhine-Westphalia. Here, RFID readers are installed not only in the incoming goods portals, but also in the forklifts. The 11,000 storage locations are tagged with transponders, which means that they too have a unique identifier. Employees tag the incoming pallets with Smart Chips. The warehouse management system automatically assigns a shelf location to all goods deliveries. RFID is also a great boon to the forklift operator: first it helps him check whether he has picked up the right pallet, and then, once he reaches the high shelf, an automatic reconciliation between shelf location and goods delivery takes place. This system makes it possible for the employees working in incoming goods and storage to process and document a monthly volume of 15,000 pallets. In Hamm,

MGL METRO Group Logistics GmbH



Pallet number

METRO Group has also been able to show that RFID continues to work reliably even at temperatures as low as minus 24 degrees Celsius.

Taking stock

METRO Group's experience with RFID show that companies can increase the efficiency of their processes and reduce costs with the aid of RFID. The benefits are particularly noticeable in the incoming goods area, as laborious manual checks are no longer required. To fully tap the potential of RFID, METRO Group plans to extend its deployment of the technology in its logistics and warehouse management operations, and to install the technology at further locations. The aim is to exploit the benefits of RFID on a wide-scale basis at all of the company's operational locations. ■

The forklift has a reader with an antenna that registers the transponders on every pallet it picks up.



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METRO Group has initiated a whole series of pilot projects to investigate the potential of RFID throughout the entire value chain – all the way to the front store.

RFID at METRO Group: looking to the future

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In the future, retailing companies will be able to improve customer service by deploying RFID in their warehouses and stores.



Within its Future Store Initiative, METRO Group tests new RFID applications that offer customers enhanced service and convenience, and, at the same time, improve retail efficiency. The project involves more than 90 companies from the consumer goods industries, the IT and service sectors, as well as academic partners. They develop new technologies and concepts, appear at trade fairs and congresses, and are actively involved in international standardization committees.

Availability and freshness

One of the pillars of the METRO Group Future Store Initiative is the real,- Future Store in Toenisvorst in the German state of North Rhine-Westphalia. In this hypermarket of tomorrow, the initiative partners test retail innovations, including RFID-based Smart Quality Assurance, under real-life conditions. The employees at the store use packaging machines to tag all meat products produced in store with Smart Chips. In the Smart Freezer in the front store, RFID readers continually monitor the Electronic Product Codes (EPC) of the products on display. Every time a customer removes an article, it is registered automatically in the store's central database. Before stock levels drop too low, employees are notified and can restock the cooler with new items. Thus, customers always find the products they are looking for – and in sufficient quantities. RFID also gives the real,- Future Store the opportunity to better align its production with actual customer demand. Another advantage of the system is that the best-before dates are constantly checked. Whenever a product is about to expire, a warning is sent to employees who can then remove exactly those articles that are affected.

Detailed inventory control

At the real,- Future Store, METRO Group is also carrying out long-term testing of RFID on logistic units. At the store's incoming goods portal, deliveries and orders are checked automatically using RFID – not just at pallet level but also at case level. This gives the store manager a detailed overview of current stock levels. Another aim of the test is to ascertain the optimum positions for attaching transponders to different types of products. This will help METRO Group to improve read results even further.

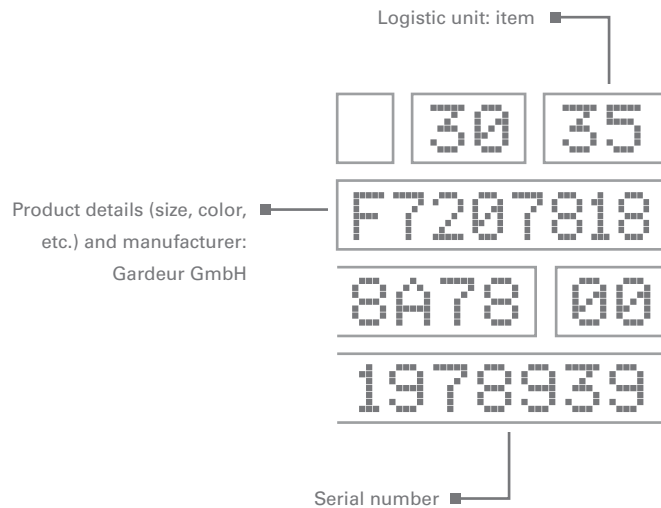




A COOL COMBINATION:

HIGH FASHION AND INNOVATIVE TECHNOLOGY

26



Information and service

Which new RFID-based customer services are possible? This is the question that METRO Group is investigating at the Essen outlet of its sales brand Galeria Kaufhof. All of the items in the men's fashion department have now been tagged with Smart Chips. Innovative applications using integrated RFID readers guarantee that clothes shopping is a thoroughly new and exciting experience. Smart Dressing Rooms, Shelves and Mirrors provide customers with additional information about the items they've selected, such as the materials used and care instructions. If the customer wants, the Smart Dressing Room can even display suggestions for additional accessories and combinations with other garments on its integrated screen.

International goods flow

Another pilot project currently being carried out by the METRO Group Future Store Initiative is the Advanced Logistics Asia (ALA) initiative, which involves deploying RFID along an international supply chain. Since starting the project in 2006, METRO Group has been using the technology to track goods shipments and containers on their journeys from Southeast Asia to Europe. At the Unna distribution center, the retail company uses RFID to check whether all of the ordered items have been delivered. One ALA subproject, 'Tag it easy,' is aimed at manufacturers from China, Vietnam and India who do not have the technological prerequisites for a full implementation of RFID. METRO Group's technology partner provides these manufacturers with suitable transponders that already contain all the necessary information. The industry partners simply need to affix the tags to their deliveries. ■

RFID on the sales floor: all items in the men's fashion department at Galeria Kaufhof in Essen have been tagged with Smart Chips.



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METRO Group respects the privacy of its customers and is an active proponent of standardized security regulations for the use of RFID.

Data and consumer protection



Shopping without worry: METRO Group protects the rights of its customers.



METRO Group's use of RFID is in full compliance with all German and European data protection laws. The relevant provisions adequately cover all existing applications of the technology. The Smart Chips used by the consumer goods industry store no personal customer information, and at no time are they used to process customer-related information. The Electronic Product Code (EPC) is linked solely to product and process information stored in databases. This information is only accessible to authorized users.

As a member of the international standardization organization EPCglobal, METRO Group has also voluntarily committed itself to implementing guidelines for the use of RFID in contact with customers. These exceed the security requirements provided for by law. Consequently, the members of EPCglobal provide their customers with extensive information about where and why RFID is being used, as well as how they can remove, deactivate or permanently disable RFID transponders. They also explain to consumers how the technology works and its benefits. The exact terms of the guidelines can be found on the Internet at www.epcglobalinc.org.

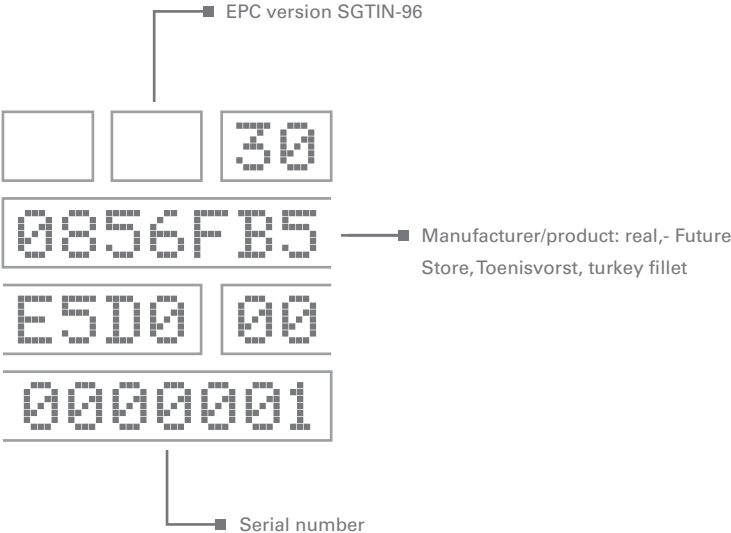
The EPCglobal guidelines at METRO Group

All products and packaging featuring transponders are clearly labeled. If the technology is in use on the sales floor, both the readers and the products themselves are marked with a corresponding notice. Together with its partners, METRO Group is also working on customer-friendly solutions for RFID use. A prime example of this is the De-Activator.



METRO Group was the world's first retailing company to develop a technology that permanently deactivates RFID transponders. After deactivation, the chip can no longer be read nor written to. It is also no longer recognized by any RFID readers in its vicinity. METRO Group De-Activators are installed at the real,- Future Store. Alternatively, customers can also request that staff remove Smart Chips from their purchases. METRO Group has a general philosophy of providing transparent and comprehensive information

on RFID. The company also regularly publishes new developments in the area of RFID in newsletters, brochures and on the Internet. A founding member of the Informationsforum RFID e. V. (RFID Information Forum), METRO Group is actively involved in a constructive and informed dialog involving the business, scientific and political communities. ■



PERMANENTLY UNUSABLE

THANKS TO THE DE-ACTIVATOR



EPCglobal guidelines at METRO Group

Notification

- Comprehensive information on the deployment of RFID technology within METRO Group:
 - On the Internet at www.metrogroup.de, www.future-store.org
 - Direct enquiries per e-mail to rfid@metro.de or via the hotline: +49 (0)2 11.68 86-20 04
 - In the METRO Group RFID Newsletter
 - In brochures, e.g. 'METRO Group and RFID,' and 'METRO Group RFID Innovation Center'
- Open dialog with special interest groups and experts, e.g. membership of the Informationsforum RFID e. V.

Information

- Customer information as to where and how RFID is being deployed, for example on written notices (e.g. posters on the sales floor)
- Marking of logistic units, cases and products equipped with Smart Chips with the EPC logo and additional written information
- Marking of all RFID readers

Freedom of choice

- Customers can permanently disable and/or remove Smart Chips after payment
- METRO Group is involved in the development of new deactivation technologies (e.g. the De-Activator)

Data protection

- The German Data Protection Act (BDSG) will be upheld at all times in the implementation of the EPC within METRO Group
- The EPC refers to product- and process-related data only. No personal data are saved.
- Suppliers' RFID transponders that do not comply with EPC standards will not be processed by METRO Group
- There is no link between the EPC and personal data. Generally speaking, no private data may be collected without the customer's consent. Irrespective of this, customer anonymity is always guaranteed when paying by cash.



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827749185734574372590372
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Suppliers who wish to introduce RFID can rely on a number of support measures from METRO Group.

Service for industry partners

RFID under real-life conditions: the METRO Group RFID Innovation Center in Neuss is an information and development platform that is unique in Europe.



Successful deployment of RFID requires the close collaboration and teamwork of all involved. Consequently, METRO Group supports companies that wish to use RFID with an extensive range of services that make use of the company's many years of experience in working with the technology.

Taking the first steps

As early as 2004, METRO Group opened the METRO Group RFID Innovation Center in Neuss, an information and development platform that is unique in Europe. At the center, industry and IT partners as well as representatives of the sales brands have the chance to test the technology under real-life conditions. More than 40 systems are available, which are allocated to five different areas of application:

- RFID in order picking
- RFID in warehouse management
- RFID in department stores
- RFID in stores of the future
- RFID at home



Tests and training courses

The METRO Group RFID Innovation Center is also home to the European EPC Competence Center (EECC), which is jointly sponsored by METRO Group, DHL, GS1 Germany and Karstadt. The center offers all users, suppliers and service providers the opportunity to comprehensively

90 PARTNERS, A SINGLE GOAL:

THE METRO GROUP FUTURE STORE INITIATIVE



Before it is written to for the first time, a transponder contains only zeros.

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test the performance of transponders using a series of standardized procedures. The EECC is the first such center in Europe to be awarded the title 'EPCglobal Performance Test Center.' The facility has also developed a comprehensive training program and organizes regular information sessions on RFID and the Electronic Product Code (EPC).

Well informed

A hotline has been set up to answer all questions pertaining to RFID and the METRO Group RFID Innovation Center. Hotline employees can also put callers in contact with the members of the Supplier Collaboration Team at MGS METRO Group Solutions. This group of experts is on hand to provide support in the planning and implementation of the technology. A regular RFID newsletter provides detailed information about all current developments. Callers to the hotline can also request a brochure containing an overview of the broad spectrum of services offered by the partners in the METRO Group Future Store Initiative.

Sharing knowledge with partners

Industry partners can find a wealth of information about RFID at the METRO Group Future Store Initiative website www.future-store.org. They can also find out more about the technology via the supplier portal Metro Link. Companies that are already involved in the introduction of the technology at METRO Group can also use the portal to check the status of their goods deliveries – free of charge. The retailing giant has also set up the METRO Group RFID Congress as an important meeting point for all METRO Group suppliers. Visitors to the event can find out more about how METRO Group deploys RFID and what kinds of benefits the technology can have for industry and retail. The event provides potential users with numerous practical tips and suggestions on how to use the technology in their business.

Hotline

Phone: +49 (0)2 11.68 86-20 04

Fax: +49 (0)2 11.68 86-4 90 60 04

E-mail: rfid@metro.de

European EPC Competence Center

Mainstrasse 113–119

41469 Neuss

Phone: +49 (0) 21 37.92 78 05

Fax: +49 (0)2 11.96 94 90 93 66

E-mail: info@eecc.info

The right transponder for every application: METRO Group only uses Smart Chips that comply with the EPC Class 1/Gen. 2 standard.



Platinum Partners:

SAP ■ INTEL ■ IBM ■ T-SYSTEMS ■ CISCO SYSTEMS ■ FUJITSU SERVICES ■ SIEMENS ■
FUJITSU SIEMENS COMPUTERS

Gold Partners:

CHECKPOINT SYSTEMS ■ COCA-COLA ■ DHL EXEL SUPPLY CHAIN ■ EPSON ■ FEIG ELECTRONIC ■
GALLUP ■ GERRY WEBER ■ HENKEL ■ HEWLETT-PACKARD ■ INTERMEC ■ JOHNSON & JOHNSON ■
LIEKEN AG ■ L'ORÉAL ■ LOYALTY PARTNER ■ MICROSOFT ■ MOTOROLA ■ NESTLÉ ■ NIELSEN ■
NXP ■ ORACLE ■ PIRONET NDH ■ PROCTER & GAMBLE ■ SATO ■ STRÖER MEDIA ■ VISA EUROPE ■
WINCOR NIXDORF

Silver Partners:

ADT ■ ALPHA TONTRÄGER ■ AVERY DENNISON RFID DIVISION EUROPE ■ BIZERBA ■ CFP BRANDS ■
CHEP ■ DEISTER ELECTRONIC ■ DOKUMENTA ■ EASYCASH ■ ECHION ■ HILCONA FEINKOST ■
HÖFT & WESSEL ■ IDS SCHEER ■ IMPINJ ■ IMPRESSX ■ KINOTON ■ KURT SALMON ASSOCIATES ■
LIEBHERR ■ LOGOPAK ■ METTLER TOLEDO ■ MICROSTRATEGY ■ MUL SERVICES ■ MULTIQ ■ NCR ■
NOKIA ■ ONLINE SOFTWARE ■ PSYMA ■ REVA SYSTEMS ■ RFID SI AG ■ SAF ■ SIRIT ■ TNS INFRATEST ■
TOMRA ■ TOSHIBA TEC ■ UPM RAFLATAC ■ VION FOOD GROUP ■ VUE TECHNOLOGY ■ WANZL ■
WMS ■ XPLACE ■ ZEBRA

Academic Partner:

AUTO-ID LAB ST. GALLEN/ZURICH

Other Partners:

CISC ■ CROSSCAN ■ IT-WERKE ■ MASSA HAUS ■ METRALABS ■ M.I.K. IT ■ NOFILIS ■ ORGATECH ■
SENSARAMA ■ THAX SOFTWARE

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