# RFID

**Dear readers,**
The introduction of RFID technology is a collaborative effort. This is not just a platitude but a reality, as was shown by the ECR D-A-CH Day in Duesseldorf, Germany, in September, which was clearly marked by open dialog. The establishment of the European technology platform EPOSS, in which the METRO Group and other corporations from various industries are involved, also speaks for itself: it is a genuine milestone.

A classic example of what can be accomplished with a partnering approach is the new testing zone at the METRO Group RFID Innovation Center: it was created in close collaboration with GS1 Germany and allows measurements that are universally valid and can be repeated as many times as needed without any disturbing outside influence. As a result, the laboratory is the only institution in Europe so far that may carry the title "EPCglobal Performance Test Center" – a distinction of which GS1 Germany and the METRO Group are particularly proud.

The fact that partnership and team spirit also are important in the interaction of science and business is illustrated by the interview with Professor Dr. Friedemann Mattern of the Swiss Federal Institute of Technology, Zurich. An exciting scenario for the future – and a field in which we will accomplish a lot together!

I hope you will enjoy your reading.
Yours,

Zygmunt Mierdorf
Member of the Management Board of METRO Group



METRO Group
Future Store Initiative


# RFID LABORATORY SETS STANDARDS

GS1 GERMANY AND THE METRO GROUP JOINTLY OPERATE A TESTING AND RESEARCH CENTER THAT IS UNIQUE IN EUROPE.

**What do companies need to take into account when integrating RFID into their processes? More and more enterprises are currently facing this question. Starting immediately, they can get additional support at the expanded premises of the METRO Group RFID Innovation Center where they can use standardized methods to test which transponders are particularly well suited for their products and where they have to be affixed to ensure an optimal reading rate. On September 14, 2005, EPCglobal recognized the new RFID lab as an "EPCglobal Performance Test Center."**

GS1 Germany and the METRO Group provide companies with comprehensive expertise in integrating the technology into their processes. Together with companies from the IT, consumer goods and service industries, the partners continuously work to optimize the technology.

The European EPC Competence Center in Neuss, Germany, applies standardized and internationally valid testing procedures. GS1 Germany and the METRO Group pursue the goal of developing globally uniform solutions for the use of RFID technology in retailing. "As the German representation of EPCglobal, it is an important task for us to accompany the introduction of the corresponding standards and to make ourselves available as a center of expertise for all technical questions," said Jörg Pretzel, Managing Director of GS1 Germany.

**Unique in Europe**

Both the technological equipment and the evaluation of test results had to meet the high standards of EPCglobal. So far, this has been accomplished by only four locations worldwide. In Europe, the laboratory currently is the only institution that may carry the title "EPCglobal Performance Test Center." The tests are conducted in a static environment to exclude external interference. The results are universally valid and reproducible under the same conditions. In contrast to manually conducted tests, the experts can define the general conditions in computer-assisted simulations in exactly the same manner. For example, during the trial setup, a forklift will run at the same speed and with the same distance to the reader through portal for incoming goods each time. "Standardized testing procedures support us in improving the reading rates of RFID transponders. With its experience, GS1 Germany has been instrumental in enabling EPCglobal to develop the corresponding test descriptions," said Ted Osinski, Vice-President Technology at EPCglobal US.

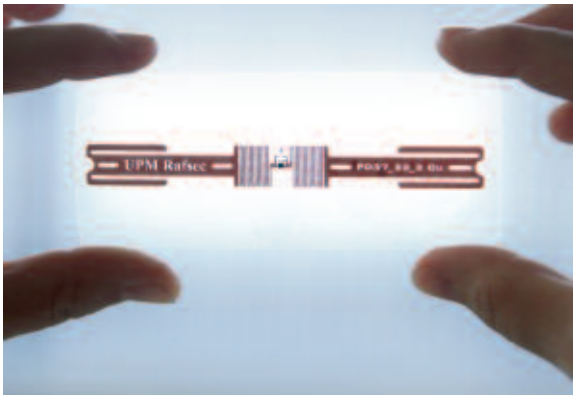
**Individual recommendation**

The European EPC Competence Center is open to all parties that wish to integrate RFID into their processes. In a hermetically sealed chamber, companies can test e.g. RFID readers and transponders. A turntable can simulate how a pallet can be driven through a portal for incoming and outgoing goods in various ways. In addition, the laboratory staff uses measuring devices to conduct so-called stress tests on readers: will the device still work after it was switched on and off for a thousand times? This is how the partners test the service life of a reader, for instance. According to Richard Ebner, Senior Project Engineer Central Projects at Gillette, the testing possibilities at the European EPC Competence Center are excellent from the consumer goods manufacturers' standpoint: "We are very pleased that we can conduct RFID tests here that are tailored to our needs and can be reproduced. This way, we recognize potential error sources ahead of time and find the corresponding solutions. This ensures a high reading rate in daily operations."

**Benefits at a glance**

The tests at the European EPC Competence Center

- Are independent of the equipment used
- Meet the new "EPC Class 1/Generation 2" standard
- Are based on European radio standards and processes
- Are conducted in a static environment to exclude interference and subsequently verified in a real-life environment




At the European EPC Competence Center, GS1 Germany and the METRO Group are putting various reading devices and other RFID components to the test. One issue is the precision with which readers maintain the defined frequency range.

In addition, the testing laboratory offers new prospects especially for small and medium-sized companies. For example, technology developers can rent professional equipment. For Dr. Werner Knop of Deister Electronic, this is a great opportunity to save costs: "For financial reasons alone, we could not build such a measuring chamber ourselves. And we couldn't find the equipment provided by GS1 Germany and the METRO Group in other laboratories either."

**Creating standards**

The testing laboratory is part of a comprehensive concept which GS1 Germany developed jointly with the METRO Group. The experiences gathered here are incorporated in the recommendations of Task Group 34 of the European Telecommunications Standards Institute (ETSI TG 34). It is the objective of this group to uniformly execute the legal requirements of the European Union on radio standards and to implement open standards.

**Simulating a real environment**

Radio frequency simulations are also conducted at the European EPC Competence Center. The RFID specialists enter various parameters into the computer to create a virtual model of the technology application. These parameters reflect the properties of the real-life environment within the company in question. For example, the experts define whether goods with a high share of liquids or dry items such as paper tissues are transported on the pallet. In addition, the calculations also take into account whether there is a metal door in close proximity to the portal for incoming goods. From the results, the RFID experts derive specific recommendations on how the suppliers can best integrate RFID into their operations. Cisc Semiconductor Design+Consulting, Klagenfurt, Austria, supports the European EPC Competence Center in the implementation of radio frequency simulations and has developed the corresponding simulation models. Josef Preishuber, Chief Technology Officer, summarizes the benefits: "Compared to real measurement setups, the simulations save us time and costs and, most importantly, what we simulate can be applied one-to-one to the real situation."

All tests conducted by GS1 Germany and the METRO Group are based on the new "EPC Class 1/Generation 2" transponder standard. To prepare for the practical application of the standard, the managers in charge at the testing center performed various tests: how do the second-generation chips harmonize with the European radio standards? How do readers react when they simultaneously have to read transponders from various manufacturers?

**Knowledge is key**

The optimal equipment is the prerequisite for the successful integration of RFID into the company. In addition, the managers in charge must have the necessary expertise in handling the technology. Therefore, the European EPC Competence Center has developed a comprehensive training concept for its partners. For example, consumer goods producers are provided with advice on how to analyze and tap the potential of RFID for their companies. They also learn e.g. how physical product properties impact reading results and on what part of the pallet the transponder should best be placed.

**European EPC Competence Center**

- Performance Test Center
- Study of multi-portal operation
- RF simulation
- Training
- Preparing for new transponder standard

For the METRO Group, the commitment to advance RFID technology is an investment in the future of the retail sector. Dr. Gerd Wolfram, Managing Director of MGI METRO Group Information Technology: "We are particularly happy with the decision of EPCglobal to commission GS1 Germany and the METRO Group with the operation of an RFID laboratory. It confirms the success of our work regarding the development and application of RFID in retailing."

Interested parties may call the METRO Group RFID Hotline at +49 (0)2 11.68 86-20 04 for information and will be transferred to experts from the European EPC Competence Team.

## New applications at the METRO Group RFID Innovation Center

**Wine refrigerator**
This device, which was developed by Liebherr, recognizes the Electronic Product Codes (EPC) of the Smart Chips affixed to wine bottles. The information can be accessed via a monitor and a Cisco IP telephone. This way, it is possible to check the inventory, have specific product information such as the vintage year displayed, or to select recipes matching the wine in question. If the temperature inside the wine refrigerator is too high or too low, the device will give a warning signal.

**"Tag on Demand" for pallets**
The new system by Logopak Systeme for the labeling of pallets is additionally equipped with a transponder system. It can print labels with or without RFID transponders, as needed. A read/write head puts the EPC on the Smart Chips and checks whether they work flawlessly. With the help of a dispensing arm, the labels can be placed on any side of the pallet.

**"Tag on Demand" for boxes**
This system, which also comes from Logopak Systeme, performs two work steps in one: it prints RFID labels with a barcode and other product information, and simultaneously provides the RFID transponder with variable data. Within a fraction of a second, the EPC is written on the transponder. Subsequently, the label is affixed to the box.


**RFID labeling system with Flag Tag solution**
In this system, the RFID printer writes on a perforated label and stores the EPC on the transponder. Subsequently, the label is affixed to the pallet. Thanks to the new solution by Sato, the transponder points away from the pallet like a flag. This way, readers can more easily access the data stored on the transponder. The labels can be used with all types of pallets and are particularly suitable for products containing liquids or metals.

**Wrapping station**
DHL offers a new service for consumer goods manufacturers: based on a detailed packing list of the client for the delivery to be picked, logistics staff will compile individual boxes on a pallet and tag them with RFID transponders. At the wrapping station, the pallet is covered in shrink wrap and tagged with the corresponding transponder.

# RFID COMPACT


>> **Faster flight baggage**
The International Air Transport Association (IATA) relies on RFID technology for baggage logistics. Radio chips will replace the previously used barcodes on baggage labels. This way, service staff can more quickly locate misdirected luggage and transport it to the correct destination. By switching to RFID, the association expects savings worth 760 million US dollars. The IATA members are planning on ratifying a joint standard for RFID labels by the end of 2005.

>> **Radio ball**
Sporting goods manufacturer Adidas, Cairos AG and the Fraunhofer Institute for Integrated Circuits jointly developed a soccer ball with an integrated RFID transponder. In controversial situations, readers positioned along the field can determine whether or not the so-called Smartball crossed the goal line or sideline. Initial tests under real-life conditions during the Under-17 World Cup in Peru in October were successful. FIFA, the international soccer association, wants to test the system one more time in December. The Rules Committee will then decide in March 2006 whether the ball can be used during the FIFA World Cup in Germany.

>> **2.5 million euros for RFID labels**
The German Federal Ministry for Education and Research (BMBF) promotes the development of RFID labels for logistics. By the year 2008, the BMBF will make about 2.5 million euros available for this purpose. Philips Semiconductors is one of the companies participating in the "SmartPack" project. The project partners are looking for ways to integrate RFID labels into packaging. In principle, SmartPack technology could also be used on products. Possibilities include e.g. a smart microwave oven that reads the cooking time and temperature from an RFID chip that is integrated into the food packaging.

>> **OECD event on RFID**
The Organisation for Economic Co-operation and Development (OECD) organized an international forum for representatives from politics, business, science and associations. The forum focused on the topic of RFID, its applications and the political implications of the technology. The event was hosted by the Committee for Information, Computer and Communication Policy of the OECD. At the forum, Professor Claudia Loebbecke of the University of Cologne, Germany, held a presentation on the use of RFID at the METRO Group.

>> **METRO Group joins CeBIT**
In March 2006, the METRO Group will participate for the first time ever in the world's largest trade fair for information technology and telecommunications, CeBIT, in Hannover, Germany. At the booth of the METRO Group Future Store Initiative, the retail group will present its visions for the future of the retail sector to an international audience from a variety of industries. The focus of the group's trade fair presence in Exhibition Hall 6 will be RFID. This year, CeBIT recorded about half a million visitors, one fourth of them from abroad.

>> **Rewe advertises on behalf of RFID**
In mid-September, the Rewe Group invited 180 selected suppliers to participate in an innovation forum in Cologne. Germany's third largest retail group would like to win the support of industrial companies for the use of RFID technology. During the event, Rewe provided the participants with information on how the technology works and showed how RFID simplifies incoming goods processes. IT and logistics partners such as SAP, IBM, Feig and Sato also presented their RFID solutions – partners with whom the METRO Group collaborates as well.

>> **RFID on forklift trucks**
The METRO Group uses RFID-equipped forklift trucks at its Essen and Sarstedt distribution centers (Germany). The vehicles help prevent errors in merchandise sorting. The prototypes are equipped with a special software and with RFID antennae and readers which were developed exclusively for the retailing company. The software is linked to the merchandise management system, which is a unique solution that is tailored to the exacting demands of the METRO Group. The project also involved technology partners Intermec, Kathrein and Siemens.

# "RFID WILL MEDIATE BETWEEN THE REAL AND THE VIRTUAL WORLD."

› Interview with Professor Dr. Friedemann Mattern

**Currently, one of the most important trends in information technology is the so-called ubiquitous computing: many researchers say that we will soon be surrounded by very small, almost invisible computers, which will practically become one with the objects of our daily life. Friedemann Mattern, Professor of Computer Science at the Swiss Federal Institute of Technology, Zurich, and cofounder of M-Lab, St. Gallen, one of seven Auto-ID laboratories worldwide, has been doing research in this area for years. The editorial department talked to him about the advantages and future prospects of ubiquitous computing.**

**Mr. Mattern, what is the use of equipping more and more objects with microprocessors and sensors?**
One key advantage is the fact that such "smart" objects communicate with each other and often know where they are at the time. This creates added value – both commercially and in the private sector. In the long term, we even expect a kind of "Internet of things" which should have an enormous impact on many areas of life.

**What does ubiquitous computing have to do with RFID?**
RFID is one of the first basic technologies of ubiquitous computing. For the time being, it only allows the remote identification of objects, but once you know the identity of an object, you can automatically obtain additional information via the mobile network or the Internet. Or you can offer services that match this object and its current context. At the same time, RFID shows us in an exemplary manner that computing technology can already be truly small and cost-effective today. In the near future, we may even expect much smaller, much more efficient and much more cost-effective computing technology!

**In which industries do you perceive the greatest potential for RFID-based services and applications?**
In the short term, the optimization and automation of processes in the supply chain will take center stage. For these applications, the necessary infrastructure of RFID transponders and readers remains within reasonable limits. Affixing transponders to individual items will catch on predominantly in those industries where you are dealing with high-quality products. For example, transponders on electronic goods may serve as a proof of purchase. There will also be transponders on pharmaceutical packages, where they can help with the identification of counterfeit drugs.

**And in the longer term?**
In the long term, I see RFID technology as a mediator between the real and the virtual world. It will become the foundation of novel services. However, consumers will only benefit from the technology as soon as RFID readers are integrated into mobile phones and the services associated with this technology are offered everywhere. The technology for this will soon be available, and the near-field communication technology promoted by Nokia and Sony has a pioneering role in this respect.

**Researchers and industry collaborate closely when it comes to RFID. Where is the trend heading?**
The current RFID boom is also due to the very successful collaboration between researchers and industry. With EPC technology, the Auto-ID Center at the Massachusetts Institute of Technology laid the foundation for the large-scale application of RFID technology, in which the METRO Group and other retail companies also had a share. This kind of collaboration should be continued to be promoted in the future. I see great potential for the development of application scenarios from which especially consumers will benefit. However, today nobody knows exactly what the software infrastructure of a comprehensive "Internet of things" will look like. Universities are predestined for research at such an early stage. They can try out unconventional methods, independent of the direct pressure to succeed.

**As a scientist, which of all the possibilities offered by RFID do you find most exciting?**
The question of what will happen once end consumers begin to discover the benefits of RFID for themselves. Should the infrastructure be "open" enough for consumers to be provided with e.g. an allergy warning on a given product at the supermarket? And where would the various data be maintained? If the development actually proceeds in the direction of an "Internet of things" we may need more strongly distributed, federal system architectures instead of the classic centralized structures. And, of course, the RFID infrastructures should be error-resistant and robust against manipulation. In addition, they must meet data privacy requirements. As a result, there is a lot of research to be done in this field!

# YOU ASK, WE ANSWER

**What components are part of the EPCglobal network?**
The Electronic Product Code (EPC) includes special information, e.g. the item name, price, weight, and best-before date of a product. This information is stored in databases. With the help of the EPC network, the user can make a connection between the EPC and the database to access the corresponding information. The EPC network is composed of hardware components, i.e. network computers, RFID writers/readers and transponders. Additional components – other than the EPC itself – include the following:

- The EPC Information Service (EPCIS) is an application through which authorized participants of the EPCglobal network can access object- and process-related information. Ideally, this information is provided from existing merchandise management systems or databases.
- The Object Naming Service (ONS) allows access to specific information. When the EPC is read, the ONS provides the user with a matching network address, which refers to the corresponding data sources in the EPCIS.
- The Physical Markup Language (PML) describes products in a format computers can understand.

**The METRO Group requires the EDI messaging format Despatch Advice (DESADV) with the Serial Shipping Container Code (SSCC) for the RFID roll-out. Why is that?**
The Electronic Data Interchange (EDI) ensures that information is available quickly and reliably for all parties involved. The METRO Group as well as a large share of its industry partners use EDI to optimize business processes. The most common standard for data traffic in the consumer goods industry is EANCOM (the term is a combination of EAN and communications) together with suitable message types for transactions within the supply chain. Overall, there are 46 internationally valid message types, including Despatch Advice (DESADV), which is used by manufacturers to announce the time and content of a delivery to the retailer. Products are identified via a 14-digit EAN standard item number (GTIN – Global Trade Item Number) and business partners through a 13-digit Global Location Number (GLN). The Serial Shipping Container Code (SSCC) is part of the EAN standard. It corresponds to the number of the shipping unit. The METRO Group requires the DESADV messaging type during the RFID roll-out, since it facilitates the automatic reconciliation of announced and actually received goods.

**Which technology partners can best support consumer goods manufacturers during the RFID roll-out?**
Collaboration with certain technology partners is not a prerequisite for participating in the RFID roll-out at the METRO Group. As a result, the retail company does not specifically recommend any hardware or software providers. When selecting an appropriate company, consumer goods manufacturers should make sure they obtain a flexible solution that is customized for their requirements. The IT partners of the METRO Group Future Store Initiative have already gathered experience with the introduction of the technology and know the requirements of the METRO Group. The names of the companies and the contacts within the companies are available at the www.future-store.org website. The standards and reader requirements that must be met are listed in the brochure "Guidelines for the METRO Group RFID roll-out." It can be ordered via the METRO Group RFID Hotline at +49 (0)2 11.68 86-20 04.

# MORE CUSTOMER PROXIMITY, MORE MARKET SUCCESS

› At the 6th ECR D-A-CH Day, more than 1,000 visitors learned about current strategies for enhancing customer loyalty

**Cross docking, vendor-managed inventory, category management – how do companies use the methods of Efficient Consumer Response (ECR)? Did ECR meet the expectations? The 6th ECR D-A-CH Day on September 6 and 7, 2005 in Duesseldorf provided answers to these questions.**

More than 1,000 expert visitors had followed the invitation by organizer GS1 Germany to the Duesseldorf Convention Center. "The large number of attendees shows how important the topic of ECR is for the retail sector and industry," said Jörg Pretzel, Managing Director of GS1 Germany. "More customer proximity, more market success – ECR in the tension-filled area between discounters and full-range providers" was the motto under which companies such as SAP, Wincor Nixdorf, Siemens and IBM as well as the METRO Group Future Store Initiative presented themselves. In about 70 lectures and workshops with high-profile speakers, the visitors obtained information on the status and further development of ECR. "In view of customer expectations that change at an increasing rate,

**Interview: Olaf Schenkel, Division Head of Bottling Operations and Logistics at Gerolsteiner Brunnen GmbH & Co. KG**

**More and more beverage manufacturers are using RFID technology. How do you use RFID in your warehouse management activities?**
Every day, we load 10,000 pallets of full beverage bottles that are moved by 30 forklifts. A real bulk business that hinges on efficiency and precision. To ensure an optimal flow of merchandise, we installed RFID transponders in the floor at all strategically important points in the warehouse. The forklifts are equipped with RFID antennae and monitors. When picking up a pallet, the forklift first scans the barcode of the pallet. As soon as the vehicle drives over one of the Smart Chips with its cargo, it transmits a signal. The system records instantaneously where the merchandise is located at that moment. This way, the staff can always exactly keep track of merchandise movements.

**How did the introduction of the technology proceed at Gerolsteiner Brunnen?**
Before introducing RFID in April 2005, we thoroughly put the technology to the test. We sunk the transponders in the floor, cemented them in, poured water over everything and covered them in ice and snow. We were surprised about the result: the technology of our Munich-based IT partner Indyon worked perfectly right away. The reading rate is 100 percent, and we were particularly pleased with the fact that the forklift drivers are thrilled about the technology.

**What are the advantages of RFID?**
Our primary goal was the efficient implementation of the EU directive regarding the traceability of foodstuffs. Thanks to RFID, we can now document the path of the individual batches without gaps. Compared to manual scanning, we save about 250,000 euros per year. But RFID can do more: we intend to further improve the flow of merchandise in the process chain in the future. We are closely collaborating with the METRO Group in this respect.

ECR is becoming increasingly significant," said Dieter Licht, Head of ECR of METRO Group. For Harald Lutz, Managing Director of Distribution at Nestlé Deutschland AG, it is most important to adjust the ECR strategy to the various distribution formats: "Nestlé defines its merchandise categories differently depending on the distribution track in question. We develop different product ranges for discounters than for department stores. Promotions are customized for the conditions of the different retail segments as well."

Together, the METRO Group, Gerolsteiner and the management consulting firm Kurt Salmon Associates answered questions on their experience and best practices regarding the introduction of RFID. "A few key success factors apply to RFID projects that each company should pay attention to. This mainly concerns compliance with standards, the careful selection of technology providers and the development of a detailed plan for the roll-out of the technology," said Dr. Gerd Wolfram, Managing Director of MGI METRO Group Information Technology.

The METRO Group Future Store Initiative Lounge attracted some special attention at the 6th ECR D-A-CH Day. Nine exhibits took center stage, including the Smart Trolley, the Smart Dressing Room and the Smart Fridge. The numerous visitors were able to see for themselves how future-oriented technology improves customer consultation and customer service. The lounge provided optimal working conditions and was a popular meeting spot for business partners. In addition, MGB METRO Group Buying presented the new supplier portal Metro Link at its own booth. Among other functions the online platform provides the partners of the retail company with access to same-day inventory data and bundles various software applications, such as programs for the management of merchandise categories and store brands.

Overall, Jörg Pretzel summarized the event positively: "The 6th ECR D-A-CH Day was a total success. I am already looking forward to the next event on September 28 and 29, 2006 in Munich."

# VOICES FROM THE INDUSTRY

ORACLE®

Holger Klug

[Senior Sales Consultant, Business Development Manager Sensor-based Services, Oracle Deutschland GmbH]

**RFID technology is becoming increasingly important for modern logistics. What is the role of highly efficient IT systems and software in this process?**
So far, the efficiency of hardware components such as readers and transponders took center stage during pilot projects. Since they have become increasingly standardized, software is gaining in importance – in terms of integration into existing logistics applications. We must bridge the gap between RFID technology and the "classic" world of IT. In doing so, we must succeed in realizing standardized platforms and minimizing integration costs. This is the only way for companies to derive a long-term benefit from the information gained with the help of RFID.

**More and more companies are planning on integrating RFID into their processes. What do they need to take into account?**
Correct. Many companies are making their first investments right now. In doing so, it is important to start with small yet expandable solutions that can be used in the long run. In the medium to long term, each company needs to clarify the following question: what IT architecture and platform is best suited for attaining the strategic, financial and organizational goals pursued with the introduction of RFID? In addition, the following principle applies: standardized, integrated platforms must be robust yet flexible at the same time.

**Which solutions exist for making the introduction of RFID easier?**
On the one hand, there are complete packages that provide a certain extent of services at a fixed price. On the other hand, companies can realize individual implementations based on the software components of various manufacturers. Oracle offers both possibilities. We developed our complete solution especially in light of the METRO Group RFID roll-out.

## TRADE FAIRS AND CONVENTIONS

### ECR live! Category Management
November 2 and 3, 2005 _ Cologne

The importance of category management is growing. In workshops and lectures, the participants of the two-day event can gather ideas on how the concept can be implemented in their own companies.
Dieter Licht, Head of ECR of METRO Group, will report about category management on the Extranet.

GS1 Germany
www.gs1-germany.de/content/produkte/event/ecr_live

### D21 Annual Convention
November 8, 2005 _ Stuttgart

The initiative D21 is Europe's largest partnership between politics and the business community. It is the objective of this network to promote economic growth and secure jobs through better education, qualification and innovative power. The projects are centered on information and communication technologies. Topics of the D21 2005 Annual Convention include "Growth and Competitiveness," "IT in the Health Care Sector" and "E-government: Security and Trust on the Internet."

Initiative D21
www.initiatived21.de/kongress2005

### RFID Conference
November 11, 2005 _ Stuttgart

Under the motto "Count on RFID!" GS1 Germany invites participants to join the RFID Conference in Stuttgart, Germany. Speakers will address the question of what costs companies will face during an RFID roll-out. Various aspects of process cost determination will be played through in simulation workshops.

GS1 Germany
www.gs1-germany.de/content/e39/e53/e499/e294/rfid_tagung/programm

### Handelsblatt Conference on RFID
November 23 and 24, 2005 _ Duesseldorf

During the second Handelsblatt Conference on RFID, international experts will provide information on the current status of discussions on Radio Frequency Identification. Speakers include Prof. Dr. Sanjay Sarma (MIT Massachusetts Institute of Technology), Prof. Dr. Klaus Heinrich (SAP) and Tony Taylor (EPCglobal). The event topics focus on business applications, specific implementation and the future potential of RFID. In the afternoon of the second day of the event, attendees have the opportunity of visiting the METRO Group RFID Innovation Center in Neuss.

Handelsblatt-Veranstaltungen
www.handelsblatt.com/veranstaltungen

## PUBLIC DEBATE

**Technology platform for closer collaboration**

In September, European companies from the IT, automotive and aviation industries as well as the retail and logistics sector established the European Technology Platform on Smart Systems Integration (EPOSS) in Brussels with the goal of advancing research in the field of so-called smart systems and to generate potential application scenarios. In future, objects will be able to independently communicate with their environment with the help of technologies like RFID. EPOSS is subdivided into several working groups on topics such as automotive, aviation and RFID/logistics to develop suggestions for the Europe-wide harmonization of standards and other issues. The founding members of the platform, including Siemens, the

European Aeronautic Defence and Space Company (EADS), Fiat, Infineon Technologies, Deutsche Post World Net and the METRO Group, view the new technologies as important opportunities for the entire European economy. In light of this background, EPOSS seeks to demonstrate the innovative potential of smart systems and to start a dialog with stakeholders from the political, business and social arenas. In doing so, EPOSS will always closely coordinate its activities with EPCglobal. The initial meeting with Viviane Reding, EU Commissioner for Information Society and Media, will focus on the objectives and future work of EPOSS.

# COLLABORATION IS THE IDEAL SOLUTION

› The Global Commerce Initiative (GCI) and IBM Business Consulting Services have presented a new study: "EPC: A Shared Vision for Transforming Business Processes"

During the past two years, significant progress was made with the introduction of EPC technology, according to the current study. Successful examples include the new "EPC Class 1/Generation 2" standard for RFID transponders and the increasing use of the Electronic Product Code in the consumer goods industry worldwide. The report was generated with the involvement of 20 top managers of leading industry and retail companies. The authors investigate the potential of EPC technology, give recommendations on its introduction and describe implementation scenarios. The analysis focuses on the logistic units of carton and pallet as well as core processes along the entire supply chain – from manufacturer to point of sale. With this survey, the Global Commerce Initiative picks up the thread of the "EPC Roadmap" it published in 2003.

**The English-language study can be downloaded from** www-1.ibm.com/services/uk/igs/pdf/epc-a-shared-vision.pdf

**Users perceive a great benefit**

According to the results of the current report, the leading users in the retail sector and industry expect the following short- to medium-term benefits from the forcefully advanced introduction of EPC technology:

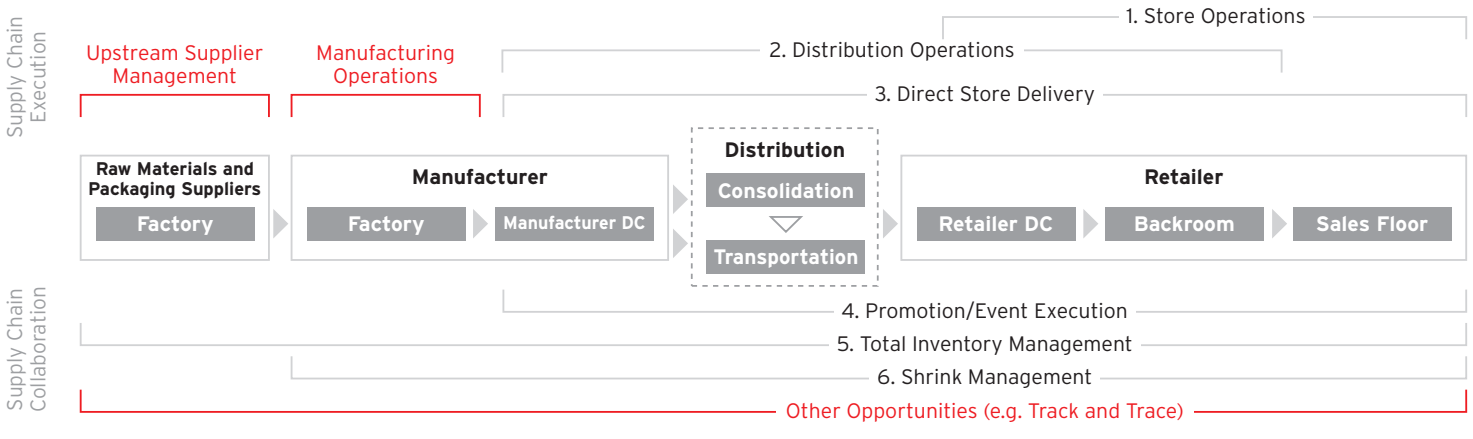
- Increased sales based on improved merchandise availability
- Optimized warehouse management
- Increased labor productivity in markets and distribution centers
- Reduced administrative costs and post-sale transactions such as complaints

To fully tap this potential, the retail sector and industry must collaborate more intensively, implement a technological transformation and optimize their internal and cross-company business processes. "The successful use of EPC technology requires a new kind of collaboration between the trading partners that ensures a free and secure flow of information based on standards," Zygmunt Mierdorf, Member of the Management Board of METRO Group and Co-Chairman of the Steering Group of GCI, said about the results of the study. "The use of the technology alone is not enough. Business processes must change as well."

**Standardization as a key success factor**

The report calls the further spreading of EPC technology a "work in progress" for which the authors recommend specific courses of action: for example, they advise individual companies to communicate the "EPC vision" internally, to form cross-functional teams and to participate in organizations such as EPCglobal. In addition, global data synchronization (GDS) is a prerequisite for the use of the EPC, i.e. the use of data based on globally uniform standards. The appendix includes a business case, which provides an overview of the costs and benefits of the EPC introduction and especially addresses the factors of labor productivity and merchandise availability on the shelf.

**Opportunities for EPC technology implementation along the supply chain**




Source: IBM Business Consulting Services/GCI 2005

# READ MORE

## › The METRO Group and RFID

What's behind the four letters RFID? The revised and expanded edition of the brochure "The METRO Group and RFID – Information about the new technology in trade and retailing" explains how Radio Frequency Identification works and in which industries it is used. It shows what role RFID currently plays for the METRO Group and which benefits result from the technology for industry, customers and the retail sector. Two new chapters offer an additional service for readers: suppliers are provided with an overview of how the METRO Group will support them during the introduction of RFID. In addition, the brochure shows the future potential of RFID.

The 20-page brochure "The METRO Group and RFID" is available in German and English and can be ordered via the METRO Group RFID 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

## › RFID Sourcebook


Sandip Lahiri

IBM Press

A mix of theory and practice – this is how the book by Sandip Lahiri could be described in brief. In the first chapters of this "RFID Sourcebook," the expert for RFID system solutions presents an introduction into the theoretical basics of RFID technology. Among other things, he explains what system components are necessary for an RFID roll-out and compares the barcode to Radio Frequency Identification. The second part of the book provides specific support regarding what companies need to observe during the integration of RFID. How can the potential of the technology be assessed for one's own company? Why is it so important to have a strategy? What is the importance of standards? These are only three out of many questions that companies should ask during their decision-making process. The author works for IBM Global Services as an RFID solution architect, has accompanied international RFID projects and conducts training seminars on RFID on a worldwide scale. Based on his experience, Lahiri concludes by providing tips on how any potential obstacles can be safely mastered.

## IMPRINT

EDITOR
METRO AG › Petra Rob, Antonia Voerste
Schlueterstrasse 1 › 40235 Duesseldorf
CONCEPT, EDITING AND DESIGN
Pleon Kohtes Klewes GmbH, Duesseldorf
PHOTOS
dpa, ETH Zurich, Gerolsteiner Brunnen, METRO AG, Oracle