



Press Kit

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1. What is Informationsforum RFID e. V.?

1.1 Tasks and Goals

The Informationsforum RFID e.V. was founded in April 2005. Its goal is to raise more public awareness of the future and innovation potential of Radio Frequency IDentification (RFID) and to promote the use of this pioneering technology by initiating an open dialogue.

Conveying Information

The Informationsforum RFID is committed to informing the public about RFID, to providing comprehensive information to political decision-makers, media representatives and consumers, and to illustrating the diversity of the possible applications. The task is to communicate how RFID is used and how it functions and thus to bolster broad-based trust in the technology. The Informationsforum RFID e.V. provides the necessary facts that are needed for people to make an objective evaluation of this technology. In addition, it serves to bundle and clarify unresolved issues, such as standards and frequencies, the compatibility of different systems and the legal framework conditions.

Fostering Dialogue

The Informationsforum RFID perceives itself as a dialogue platform: It gives politicians and business representatives, scientists and media experts as well as interested consumers the chance to exchange information and views on RFID technology. The Informationsforum RFID is a competent mediator between technical development, specialist information and political evaluation.

Significance for Germany as a High-Tech-Location

One of the main tasks of the Informationsforum RFID is to illustrate the significance of RFID for the future of Germany as a technology location. The representatives of the Informationsforum RFID actively contribute their knowledge to the public discourse. By providing concrete examples of RFID applications, the Informationsforum RFID promotes understanding for this technology and its benefits.

1.2 Executive Board and Management

Chairman of the Board

Prof. Michael ten Hompel
Managing Director of the Fraunhofer Institute for Material Flow and Logistics



Born in Bergisch Gladbach in 1958, Prof. Michael ten Hompel holds a chair for Transportation and Warehousing at the University of Dortmund and is Managing Director of the Fraunhofer Institute for Material Flow and Logistics. He studied Electrical Engineering at the RWTH Aachen and earned his doctorate at the University of Witten/Herdecke. In addition to his scientific activities, Prof. ten Hompel was also active in business. In 1988, for example, he founded GamBit GmbH (these days known as Vanderlande Industries Logistics Software GmbH) and ran the company – which is primarily engaged in the development and implementation of warehouse management systems – until his departure as managing partner in February 2000.

Members of the Board

Deputy Chairman of the Board

Zygmunt Mierdorf
Member of the Board of METRO Group



A member of the board of METRO Group, Zygmunt Mierdorf is the Executive Vice President Human Resources and, in his capacity as board member, responsible for human resources, IT, logistics, e-Business and real estate. In addition to this, he is Chairman of the Supervisory Board of the sales lines Media/Saturn and Praktiker. As of 1991, he had performed a variety of managerial duties within METRO Group before being appointed to the Board in 1999.

Claus Garbisch
Head of Sector Consumer Retail, DHL



Born in Vasbeck in 1947, Claus Garbisch is Sector Head Consumer Products at DHL and therefore holds global responsibility for the markets of fashion, branded goods and retail trade. A graduate of economics, Claus Garbisch has been employed at DHL in a variety of capacities since 1995. Prior to his employment there, he had worked at Unilever, Fedex and Tibbet&Britten, among other companies. Claus Garbisch is a member of the Supervisory Board of GS1 Germany and EPC global.

Prof. Claus Heinrich
Member of the Board SAP AG



Prof. Claus E. Heinrich has been a member of the board at SAP AG since 1996. Here, he is responsible for a number of different areas such as the development of SAP R/3, the solutions areas Production Industry and Supply Chain Management as well as for RFID technology. In addition to his capacity as Head of Division Global Human Resources and Human Resources Director at SAP AG, Claus Heinrich is also responsible for the management of the SAP Labs. Furthermore, he is in charge of the units within SAP which deal with the production process and quality assurance as well as the areas of internal SAP IT and security. He holds a professorship at the Faculty for Business Administration at the University of Mannheim where he actively lectures.

Dr. Friedrich Stara
Member of the Management Board of Henkel KGaA



Born in 1949, Dr. Friedrich Stara is a member of the Management Board of Henkel KGaA and responsible for the division Detergents and Cleaning Agents. He joined the Henkel group in 1976 and has performed a variety of capacities in the detergent sector in Austria and Germany. Since 1998, Dr. Stara, a native Austrian, has been President of Henkel Central Eastern Europe and responsible for Henkel's entire business activities in the Central and Eastern Europe which are run from Vienna.

Managing Director

Dr. Andrea Huber



Born in 1965, Dr. Andrea Huber has been Managing Director of the Informationsforum RFID e.V. since July 2005. Prior to this, she was in charge of the Government Affairs division at Microsoft Deutschland as well as the International Government Affairs division at Deutsche Telekom AG in Bonn. Before joining Deutsche Telekom in 1997 she worked for the U.S. Federal Communications Commission. Dr. Huber studied law in Freiburg, Hamburg and Washington D.C., and earned her doctorate at the Albert Ludwigs University in Freiburg.

1.3 Members of Informationsforum RFID

DHL
Henkel
Hewlett-Packard
IBM
Intermec Technologies
METRO Group
Oracle
Philips
Procter & Gamble
SAP
Siemens
T-Systems
Volkswagen

Sponsors

GS1 Germany
BITKOM e.V.

(As of January 2006)

2. RFID – Key Technology

2.1 What is RFID?

RFID stands for Radio Frequency IDentification. This technology enables the contactless and non-intervisible transfer of data using radio waves. An RFID system infrastructure comprises a transponder, a transmitter-receiver-device as well as a supporting IT system. The transmitter-receiver unit produces an electromagnetic field which is received by the aerial of the RFID transponder. The transponder then sends the numeric code to the reading device. Depending on the frequency range, transmitting power and local environmental circumstances, data may be read at a distance of anywhere between a few centimetres and several metres.

At the core of this technology is the transponder (also known as a smart chip, RFID tag or RFID label) which, as a rule, contains a numeric code. This lends every object equipped with an RFID transponder its distinctive identity. In order to establish global standards for RFID communication, international organizations such as EPCglobal are endeavouring to standardize the numeric codes. In doing so, EPCglobal is placing emphasis on the so-called EPC (Electronic Product Code). This code consists of the European Article Number (EAN), also known as the bar code, and a serial number. In Germany, EPCglobal is represented by GS1 Germany.

Depending on their application, transponders are offered in various designs and sizes today. There are active and passive transponders. Active transponders are battery-operated. Saved data can be transferred over a long distance, e.g. for road toll systems. Since passive transponders do not have their own energy source, they obtain the required energy from radio waves when they are “energized”. The transmitter range is comparatively low. In turn, however, they are far less expensive, smaller and lighter than active transponders. Passive transponders are suited for trade applications and in the consumer goods industry, for example.

2.2 Areas of Application

The first commercial precursor to RFID technology came onto the market back in the 1960s. To date, RFID technology has been unable to achieve a breakthrough because of the high implementation costs involved. However, new and less expensive methods of transponder production and process optimisation through RFID have paved the way for this technology to enter many areas.

Waste Management

Due to the rise in waste management costs, various German municipalities such as the Bavarian counties of Hof, Erlangen-Höchstadt, Mühldorf am Inn, Kehlheim and Heiligenstadt have introduced RFID systems. This has not only resulted in optimized processes but allows cost calculations to be made based on the polluter-pays-principle. Some municipalities even offer their citizens weight-based waste management cost calculations. Through robust transponders mounted on the dust bins as well as scales mounted on the refuse trucks, it is possible to calculate the exact weight of waste produced by each household.

Research and Development

In the R&D sector, RFID technology has been applied in electronic container identification for many years, for example. Gas cylinders and chemicals containers that contain toxic substances must be exactly and clearly labelled and identified.

Leisure Industry

Even today, contactless access systems have established themselves in many leisure industry areas. RFID can be found in so-called smart keys for users and guests of fitness and wellness clubs, for instance, which may be used as tickets and as locker keys or credit cards. A few years ago, the Austrian region of Nassfeld/Sonnenalpe implemented an RFID solution which integrates a great number of different tourist service providers such as hotels, ski lodges, ski lifts or mountain railways. This enables guests to make cashless payments and thus make use of various offers during their stay in the region. The system comprises more than 80 measuring devices and 50 offsite points of sale. RFID chips can also be found in the shoes of runners participating in marathons, such as the Berlin Marathon. They allow the participant's running performance to be determined exactly.

Health Care

In the health care sector RFID systems are used, for instance, for labelling blood plasma, samples or other medical products. The application of this technology allows costs to be reduced and the quality and service standards to be improved.

The intensive care unit for children at the university hospital of Mainz is using RFID technology as part of a pilot project.

At the Jacobi Medical Center in New York, Siemens Business Services provided more than 200 people with an RFID wristband that stores a patient number, which can easily be connected to the patient data in the secure IT-system of the hospital. The RFID system can thus assist in the rapid and targeted treatment of patients. In Taiwan, both patients and medical staff wear an RFID transponder to combat the dangerous lung disease SARS. This makes it possible to exactly reconstruct potential means of infection at the hospital.

Trade

Up until now, RFID has been applied by the trade sector, mainly for logistics and inventory management. Here, RFID provides for transparency in the logistical processes and thus allows for a more efficient control of materials management processes. Production, supplier or transport problems have a negative impact on downstream processes – users of RFID technology therefore have a decisive competitive edge.

METRO Group was one of the “early adopters” of RFID technology in the trade sector. As part of a pilot project, the company - together with its partners - is testing the use of RFID in certain areas of the Future Store in the North Rhine-Westphalian town of Rheinberg. At this Future Store, an integrated system is being tested in the areas of warehouse management and goods replenishment.

The application of RFID technology also protects the consumer from product imitations: In Italy, for example, a pool of dairies furnishes the rind of the traditional Parmigiano Reggiano cheese with an RFID chip; on the one hand, to prevent imitations, and, on the other hand, to furnish proof of the quality of the cheese.

Logistics

RFID systems offer a multitude of possible applications for the entire logistics chain and the transport industry.

RFID is also being tested for the conveyance of letters and small parcels. In May 2004, the International Post Corporation (IPC) launched a seven-year pilot project. IPC unites 23 international post companies, one of which is Deutsche Post AG. During the project, around 3,000 test users are to send about half a million letters and small parcels equipped with RFID globally and annually. The software for coordinating the mail is provided by IBM.

Volkswagen uses RFID technology for the identification of vehicles, for instance. After being produced, the vehicles are equipped with a transponder which enables the parking location of the vehicles to be tracked. Furthermore, it is possible to record information about certain services on the transponder, such as a drive to a car wash. To control the production process at its plant in South Africa, Volkswagen has already equipped every body shell with a transponder.

RFID systems are increasingly being used in the luggage and parcel sector. Airports in Frankfurt and Tokyo are piloting the use of RFID systems to identify pieces of luggage. With the help of transponders on pieces of luggage, the number of misrouted suitcases is being reduced dramatically.

Pharmaceutical Industry

The pharmaceutical industry uses RFID for labelling its products. Through RFID, patients can be protected from health-endangering imitations and misuse, and wrong applications can be significantly reduced.

Patients may be warned, for example, in case they administer medicine incorrectly. As part of a field test, Sweden is developing a new RFID system for drug packaging which collects, processes and exchanges large quantities of encoded data.

Animal Tagging

In electronically controlled livestock husbandry, e.g. of cattle, sheep and pigs, tagging systems have been in use for more than 20 years. The transponder equipped with identification data is fastened to the animal or injected under the animal's skin. Benefits lie in the fast, automated and fraud-proof identification of animals as well as in the ability to furnish reliable proof of origin. With regard to BSE and other animal epidemics, this provides an important criterion for consumers' purchase decisions.

Maintenance and Repair Management

RFID systems are increasingly being applied in the areas of maintenance and repair management for process optimisation and quality enhancement. Electronic product information is also an important support tool for recalls in the automotive industry, for instance. Tyre manufacturers are planning to install RFID transponders into tyres as standard as of 2005. This will allow information on tyre age, tyre pressure or street conditions to be transferred automatically to the on-board computer of the vehicle. The electronics are supplied by the companies Fairchild Semiconductor and Philips under the licence of Intermecc Technologies.

2.3. Perspectives of RFID Technology

RFID has an enormous future and innovation potential. Trade and industry are focusing on RFID as a technology of the future because it enables them to optimize their business processes, to reduce process costs and to increase safety, including consumer safety. The use of RFID is not only an option for companies; the technology's success will largely depend on whether and to what extent small and medium-sized enterprises will use RFID. To date, the extensive use of RFID systems has mainly been thwarted by the comparatively high unit costs for transponders. Even though production and purchase costs have decreased from one euro to approximately 40 cents due to the increasing demand, RFID chips are still relatively expensive. Industry experts expect that, by the year 2010, a chip will only cost somewhere in the region of 1 cent. To date, some of the weak points of existing RFID systems are the low reading rates and ranges, problems with bulk scan and recognition on different wave bands. The recognition of transponders located in the vicinity of metals and/or liquids in certain frequency areas is another problem. Numerous companies are investing enormous time and effort in researching these weak points.

A variety of industries can benefit from the application possibilities offered by RFID systems. Worldwide, research institutes, trade associations and government bodies as well as companies from industry and commerce deal with the potential that this technology can provide. Experts do not expect RFID systems to be used extensively in products before 2010/2015. At present, about 550 companies worldwide use the electronic product code, 70 percent of which are located in the US. Germany ranks second in terms of dissemination. About 60 users in Germany are applying the new RFID technology, most of them as part of pilot projects.

2.4. Literature and Information Sources

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