

## METRO Group's Future Store takes German public by storm—thanks to Wireless technology

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### Overview

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#### ■ Challenge

*With a vision in place to become a 'store of the future', METRO Group set about creating the Future Store initiative. Business partners including IBM, SAP and Intel and other IT and consumer companies worked with the METRO Group on the project.*

*Ten months of intensive discussions preceded the store's opening in April 2003. The aim was to see how a range of new retail technologies worked together in a single, real-time, consumer-integrated store environment.*

*With the experience gained from the pilot, METRO Group aims to become even more sensitive to the changing demands of consumers and to gain market leadership in future retailing. In addition the company intends to promote retail initiatives nationally and internationally.*

#### ■ Why Become an On Demand Business?

*In harnessing IBM Business Consulting and Wireless e-business Services, the METRO Group demonstrated its*



*technological leadership as an innovator, supplying on-demand technology to the marketplace.*

#### ■ Solution

*The basic technology underlying the Future Store is Radio Frequency Identification (RFID). This technology can be applied across the entire value-added chain for automatic product identification—from production through transport and warehousing logistics to sale and customer service. It is also able to store and recall crucial product information, including prices, best-before dates or supplier identity. All this data is collated centrally on the merchandise management system.*

*Additionally a local area network (LAN) was created to enable use of technology such as electronic shelf labels.*

#### ■ Key Benefits

*The new wireless processes save the company from having to perform time-consuming manual counts and save money through tighter inventory control. The store increases customer loyalty while optimising its back-end processes. The wireless integration with the warehouse information application enables the store to use real-time data to track inventory and shipments automatically.*

### On Demand Business Benefits

- Improved store inventory management due to real time information on products and order
- Cost reduction—missing products are noticed immediately
- Realtime data about the entire supply chain, thanks to wireless tracking of pallets with goods and the integration of the tracking system into the back-end system
- Increased volume of customers—boosted by a third
- Greater customer loyalty through widespread approval of the new technologies.

*“Whoever is first with all this will also be the first to profit from it.”*

—Dr. Hans-Joachim Körber  
METRO Group CEO

### Business Challenge

One of the largest trading groups worldwide, the METRO Group was founded in Germany in the 1960s and steadily expanded throughout Europe, merging with several top retail companies.

Based on its successful performance in the domestic market, the group quickly expanded into 28 countries offering product and services which meet the most stringent customer demands.

The METRO Group prides itself on its guarantee that a large selection of high quality merchandise is always available—both in the food and non-food areas. Freshness is a top priority with regard to its food products.

Business and operational structures within the company and its entrepreneurial concepts and strategies far exceed the normal image of a trading company focused on the domestic market.

The Extra supermarket in Rheinberg was already earmarked for modernisation when the Board began discussions with technology partners about taking a quantum leap further to make it the ‘Future Store Initiative’.

The METRO Group team decided to focus on further improving the consumer shopping experience along with introducing increased efficiency in its processes.

### Why become an on-demand business?

METRO MGI was seeking an end-to-end solution that makes a large section of the life-cycle of a product ‘transparent’. This was achieved with the aid of their technology partners.

This applies to every stage of a product’s life-cycle—from back-end supply chain management, through inventory tracking on the shelves and ultimately to purchase.

For example, pallets with boxes leaving the distribution centre and heading for the Rheinberg store are now scanned as soon as they pass through the dock door.

Shipment data is sent automatically to the store warehouse information system. The Rheinberg store manager knows that the shipment has left the distribution centre and what products to expect.

As soon as the shipment arrives at the store, the RFID-tagged pallets are scanned again and checked against the previous data. The store manager knows immediately if anything is missing and can request a replacement shipment from the distribution centre.

In addition, when customers enter the store, the RFID-equipped shopping carts are scanned, enabling the store to monitor

- *the number of shoppers and their length of stay.*
- *shelves with built-in RFID to notify store management about:*
  - low volumes of crucial items for swift replenishment*
  - misplaced items which need restoring to their correct place.*

RFID-tagged items are scanned at the check-out with the Electronic Article Surveillance (EAS) disabled. The item is removed from the inventory and the supplier is updated about the store's stock level of the product. The cart is scanned again when the customer leaves.

While most of Future Store's high-tech installations may not find their way into widespread use for a number of years, METRO CEO Hans-Joachim Körber is certain the investment will pay off.

For METRO Group, the Future Store is not a return on investment decision, but a return on opportunity decision.

### **The Business Model**

RFID plays a key role not only in the Future Store initiative, but also, potentially, in the wider backdrop of the Retail sector. Retailers and analysts are generally agreed, though, that RFID will first find its place in the supply chain.

METRO is testing RFID tags to gain an understanding of how the technology works. RFID is also being used in the back office at Future Store and in monitoring the logistics flow. In the distribution centre.

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### **Key Components**

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- IBM Wireless e-business Services in Radio Frequency Identification (RFID)
  - IBM Business Consulting Services
  - IBM Integration Technology Services
  - IBM Retail Store Solutions
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*“If we get inventory management controlled with RFID, it will have a major impact on process efficiency and cost structure.”*

*—Dr. Gerd Wolfram, Project Manager,  
METRO Group Future Store Initiative*

METRO uses RFID readers to scan tags on cases and pallets being loaded for transportation to the store.

Selected products are also tagged so that METRO is now able to explore the on-demand, in-store impact of smart-shelf technology on re-stocking capabilities.

When an RFID-tagged product is removed from a Future Store shelf, it triggers a replenishment alert to the back-office. In an industry where shelves can run out of stock up to ten percent of the time this enjoys a keen focus.

The same tags are also used for theft protection at the store's exit. This is particularly effective on items such as CDs and DVDs which carry a high theft risk.

Shoppers can sample products such as DVDs, CDs and tapes by scanning the products' RFID tag and displaying a corresponding video clip in an in-store kiosk.

Six months into the Future Store initiative, a study by the Boston Consulting Group demonstrated encouraging results. 77 percent of customers used the new wireless technologies and almost 50 percent of users gave positive feedback including those in an older age bracket. Customer satisfaction soared from 34 percent to 52 percent.

### **The Operating Environment**

In implementing advanced technologies such as RFID and a Wireless LAN network, IBM and Metro MGI overhauled the entire store infrastructure. The result is better monitoring of products throughout the company's entire supply chain.

But the key to the project was the systems integration. Previously METRO used electronic shelf labels in its Cash and Carry environment.

By implementing self-checkout, RFID and many other technology products, the company created a true 'Future Store'.

To achieve a seamless integration, METRO harnessed IBM middleware and RFID integration services. All the RFID 'smart tags' communicate through a single, central system hub that IBM developed specifically for the METRO Group.

IBM took on a leadership role in the following areas:

- *RFID end-to-end system integration*
- *RFID Picking Stations*
- *RFID Labeling*
- *RFID Goods Received*
- *RFID Backroom Storage*
- *SmartShelf Integration*
- *RFID Checkout for theft protection and inventory update*
- *WLAN system integration*

In addition to responsibility for the overall RFID systems integration at the store, IBM provided a new kiosk information system and the 'Veggie Vision' innovation—a produce-scale camera that recognises fruit and vegetables being weighed without any consumer input.

The kiosk system delivers valuable additional information for a product after the barcode has been read by the integrated barcode reader.

METRO's Future Store—which the company describes as a 'permanent test lab' - will be the place where the company and its partners continuously assess new technologies for the retail world.

When consumer acceptance of the wireless technology embraced by the store becomes widespread and their value in promoting efficiency fully assessed, the company plans to carry out further tests in other outlets.

METRO's Future Store will have a huge impact on the industry. Since METRO recognises that it cannot change and modernise the industry with new technologies on its own, it is open to sharing its assessments and consumer surveys with other retailers.

*“What is happening in the Rheinberg Future Store is a masterpiece of integration. We now understand that the integration of these technologies in one store is possible.”*

*—Zygmunt Mierdorf, member of the Management Board of the METRO Group*





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