



RFID for Goods Receipt and Goods Issue

How to accelerate logistics processes by the use of
RFID technology for fast and secure
identification and how to ensure and expand
market opportunities

Logistics: One of the Areas Where the Use of RFID Offers the Greatest Potential

For many years RFID has been a topic of changing relevance. The breakthrough of this technology has been announced too many times. However, it has rather seldom been that efficient solutions to support, automate and accelerate business processes have been presented.

But now there are indications that remote identification will soon be ready for profitable usage. Again it is the area of logistics which acts as a precursor for this technology.



There are many fields where RFID technology offers considerable advantages over the conventional barcode technology and this is exactly where highly integrated

solutions are already possible today: in the areas of goods receipt and goods issue. AEB's RFID solution enables you to make these processes faster and more secure. The retail industry with its numerous initiatives acts as an active pacemaker. Other industries will soon follow suit.

A double boost in efficiency

Particularly at the beginning and at the end of the shipping process, a huge amount of data has to be captured. Quite often, several barcode labels need to be scanned per package. Thanks to RFID, all this information can be summarised on one label: the RFID transponder (also known as an RFID tag). Hence only one capturing process is required. In addition, it was previously necessary to "identify" each package individually and to scan the labels attached to it. By means of the "bulk capture technology", all transponder data is read in one go from several packages.

Much more detailed information on far less space

Besides all the information already printed on barcodes, e.g. delivery note and consignment number, consignee details, package or routing data, an RFID transponder can store a massive amount of data which is almost unlimited.

What is even more astounding is that in the course of the process, it is possible to enter or delete further information at any time. For example, there is the possibility of adding timestamps. When doing so, the transponder logs the journey of the package through the entire process chain and enables the provision of a complete product history profile.

Finally, all the internal information can be deleted by just one single command. Thus, all your internal information will remain under your control.

Information exchange along the supply chain

Decentralised data storage facilitates the exchange of information along the supply chain. A direct link between product and information will reduce the data exchange based on conventional EDI technology. This saves the setup and maintenance of complex interfaces.

User-friendly and stable during productive operation

Installations of AEB's software, ASSIST4, are already equipped with RFID technology on three different continents. Due to the use of RFID stations, it has become possible to accelerate and improve the logistical key processes of the supply chain considerably. The ASSIST4 RFID solutions run on workstations and handhelds. At specialist data capture stations, the data of several packages can be captured in one hit. Thanks to the complete integration of ASSIST4 into the flow of information, it is possible to tap into the full potential of RFID for further automation.

ADVANCED
GLOBAL
TRADE
SOLUTIONS

RFID Technology: Standards, Frequencies, Hardware.

Increasing standardisation is a key to the expected breakthrough of RFID technology. AEB's RFID solution is open to various technologies.

Open to:

- all frequency ranges, e.g. 13.56 MHz; 868 MHz
- different types of transponders with varying data capacity (e.g. 256 Byte)
- active and passive transponders
- various handhelds and antennas, also for antenna gates
- the future; because the hardware used matches standards and guidelines

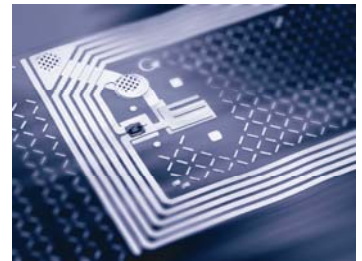
On the Move: Decreasing Costs will Achieve a Clear ROI.

The new RFID technology has not yet achieved its breakthrough on the market. This is because of several reasons: the costs for the transponders have so far been relatively high and there have been many technical difficulties with IT integration. Another important reason was a lack of business process competence among many RFID suppliers. But the market situation is currently changing and experts are expecting further price reductions during the course of 2005.

The huge global retail companies Wal-Mart, Tesco and Metro are driving forces behind this promising development. They are planning to make the introduction of RFID transponders a "must" at least as far as the load devices of their suppliers are concerned. This means: The decision against the use of RFID can be a decision against great market opportunities. However, this discussion often hides the actual potential offered by the RFID technology.

Keyword: What is RFID?

RFID stands for **R**adio **F**requency **I**dentification. This technology enables the identification of objects via electromagnetic alternating fields. The data transmission does not require direct contact or line-of-sight scanning.



The picture shows a transponder as it is currently used in the retail industry.

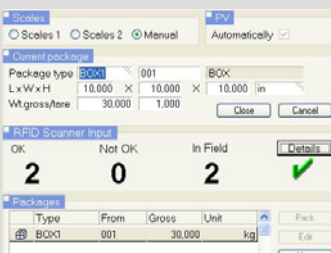
RFID label with barcode

The adhesive labels attached to the product packaging include invisible RFID tags. In addition, the basic information is also available as barcode information.



Mobile control

It is possible to read the data stored in the transponders with different handhelds.



Screen in XXL format


The information about the number and status of the transponders located within the antenna field is displayed in an enlarged format. This enables it to be checked from a greater distance.

Bulk data capture

Several packages are captured in one operation by moving them along the antenna.



Advantages of AEB's RFID Solution at a Glance

Many RFID projects have remained at the testing stage for  many years. AEB's RFID solution has been running smoothly at Infineon for many months. In productive operation.

AEB's logistics solutions are installed at more than 600 companies. Worldwide.

Accelerating processes

Minimising manual scan processes due to bulk identification. Fast data transfer for shipping and goods receipt.

Increased efficiency

Less handling work for packing and unpacking. Less paper labels required. Less waste.

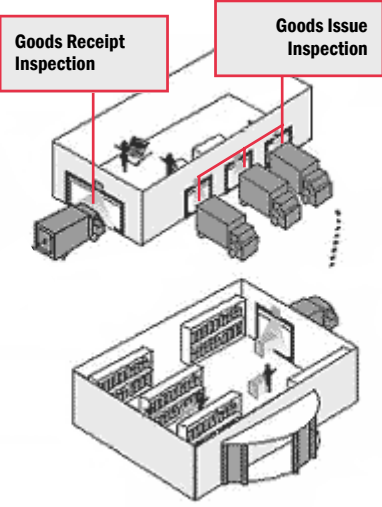
Increased quality

Fewer manual scanning processes will reduce errors. In case of quality problems, the entire production history of a product can be traced back. Additional information can be put on the label, e.g. second lot number or time stamps.

Additional value for the customer

All kinds of supply chain processes can be supported for all business partners. This will meet the customers' requirements – especially those of the retail industry.





Goods Receipt Inspection

Goods Issue Inspection

A revolution compared to barcodes

No matter whether load devices, packaging or products are to be identified: When using the RFID technology, it is not only possible to read the data but also to write it back.

By means of bulk identification, it is possible to read several transponders in one go and in a fast, efficient and possibly even fully automated way.