



RFID Division

Case Study RFID

RFID-based kanban process

13.56 MHz / 868 MHz



Ready
for
RFID ?

* Radio Frequency Identification

Project:

Optimization of production workflows: introduction of an RFID-based kanban system

- Optimization of work processes
- Identification of production material
- Inventory level detection in real time
- Unchanged workflows
- Efficient production
- Accelerated production process
- Minimized inventory control
- Easy to integrate
- Reliable system



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"We want to become leaner!" That's the motto at production plants nowadays. What they mean is: Streamline production workflows, shorten the time between inquiry and coverage of material demand, make the production chain as efficient as possible in order to safeguard the company's competitiveness!

In many manufacturing companies a kanban system is already in use – that is the first successful step in becoming leaner! But production can be even leaner: with RFID.

Problem

Robert Bosch GmbH saw RFID technology as a welcome opportunity to optimize existing kanban processes on a consumption-controlled basis. The traditional kanban principle has already been in use at Bosch for some years now: The "milk run" supplies each production station on a production line with materials. So far the principle has been applied without any automation whatsoever and every material demand has to be entered in the inventory control system or scanned using a barcode. The result of this is that the material demand in the process chain cannot be booked in real time. For this reason the company has a large buffer store in order to avoid production stoppages due to a shortage of accessories or in the event of workload peaks.

In future the objective is to discontinue the manual entering or scanning of material demand requests and to record material flow automatically.

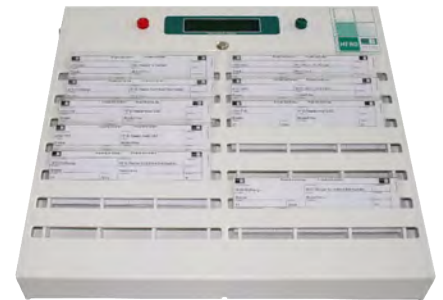
Solution

In the initial phase of RFID introduction a pilot production line at the Robert Bosch GmbH plant was equipped with an RFID system. The centerpiece of the system is a reader with an antenna, fitted to the end of the flow storage system or supermarket, which identifies the consumed material and triggers material flow control. The procedure is as follows: The "milk run" places the material in production crates and deposits the latter in the supermarket. Attached to each of these crates is a kanban card that provides information on the contents of the container (amount and material). On the back of the card there is a transponder that is scanned by the reader as soon as the production line employee takes a crate filled with material out of the flow storage system. A new material demand request is initiated automatically.

When the reader identifies the transponder, it establishes a direct link to the inventory control system and the material consumption and demand are recorded and generated automatically.

A successful one-month test phase for the pilot production line under real conditions was followed by the rollout phase at the plant.

To provide further support for the processes Brooks also offers kanban boards, stationary readers, and gate systems.



HF80 kanban board



HF60 IAE stationary reader



UHF kanban board



UF80 stationary reader

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