

RFID gets businesses moving

In the previous year the number of RFID projects in the European textile and clothing sector snowballed. There is no sign of crisis. It seems that in times of economic depression and falling readiness to invest, every Euro, that is available for investment, is scrutinised and invested better in optimising established structures than in new business ideas. A glance at different projects shows which opportunities RFID offers the industry.

Author: Dominik Berger MSc., RF-iT Solutions (A)

The outcome of a recent survey in Germany's fashion industry leaves room for cautious optimism: in 2008 the majority of the polled companies increased their turnovers. Not only the figures of the Christmas trade indicate that the economic reality is possibly better than the current mood. Price alone as an all dominant sales argument has long been discarded, and many businesses realise that there is still great opportunities in performance optimisation. The catchwords are: more turnovers due to inventory accuracy and cost reductions because of improved efficiency along the supply chain. The technology is also familiar: RFID plays a central role.

Clients are looking for value

In the end it is the consumer, who stimulates the market and who is still prepared to pay good money for good value. This is not about quality and price. Values and trust are crucial, when customers decide in favour of products and brands. This includes factors such as reliability, performance, prestige, origin, safety and originality. There is only one way this consumer behaviour can be supported or used by companies: by using a supply chain strategy, which focuses on optimising internal structures and staff competencies.

The returns that manufacturers and traders expect from the introduction of RFID/EPC are an improved control of the flow of goods, a higher level of transparency in the delivery chain and more efficient data exchange. These advantages lead to lower personnel costs and shorter delivery times, but also to improved retail security systems and low inventory. Low inventories with either the same or an increased turnover are of especially high importance in the economic environment.

For every company specific sub-process within the supply chain – production, allocation and sales – it is possible to provide individual benefits and returns when using RFID.

Collaboration in the textile value chain leads to additional comprehensive process optimisations, which can be evaluated in terms of speed, accuracy or transparency.

“How and where to start” – is what marks the beginning of the implementation, after the target formulation, when the question is how to implement a RFID/EPC-project. In this case anything goes, as long as it is tailored towards the individual requirements. Whether it is a project with one or more trade partners, or if it is planned for a business internal process chain or for one or more classes of goods, the optimal approach takes business specific requirements and objectives into consideration. Irrespective of that, a standardised process control with RFID along the supply chain requires the use of the same tools as well as identical standards.

RFID at Karstadt takes supplier on board

The focus on supplier side, of the most well-known RFID projects in the fashion industry, is on generating additional turnover, on the one hand through the assurance of permanent and fast supply of goods and on the other hand through the early identification of selling opportunities for products. Karstadt concentrates in its Düsseldorf branch on optimising the sales process and customer value. In the logistics area this includes acceleration and increased

accuracy of commissioning, as well as faster handling and throughput of goods. Real-time data, captured with RFID, controls the stock flow and offers full transparency of the stock location. Therefore customers receive more quality consultation, because salespersons are, for instance, relieved of administrative tasks and stock availability at POS is continuously guaranteed. Considerable advantages are a reading rate of more than 99.6 % and greater transparency for the re-sorting of goods and storage locations.

An evaluation by the Fraunhofer Institute confirms the successful integration of RFID in the processes of the branch, high savings potentials, and economics based on cost savings - important requirements for a rollout. The first two suppliers have already been integrated in the RFID process at Karstadt. Via a separate portal all RFID/EPC data is made available via the internet.

This year Karstadt plans to reinforce the use of RFID even more in the day to day operation of the branch and to integrate another supplier. Therefore they plan, for instance, the utilisation of RFID for controlling returns and exchanges, so that articles are re-saleable faster. Support and control of the floor management, as well as employment of mobile RFID measuring devices for article searches and price changes are also on the program. Analysis of the key performance indicators will show if and which positive effects can be achieved through speed and transparency.

RFID at Northland puts a stop to thieves

Radio frequency identification as anti-theft-protection is already used successfully in various industries - from immobilisers in cars to DVDs in retail. Recently Northland, expert for outdoor clothing and equipment, who was a leader in using RFID technology in the fashion industry, also uses RFID for securing their goods. For inventory purposes, the manufacturer of extreme sports textiles has already at the beginning of the year, in their shop in Graz (A), equipped around 1300 different outdoor products, such as jackets, trousers, jumpers as well as backpacks and thermos flasks, with RFID tags. Since August the data carriers combine for the first time article information and anti-theft-protection on one hang tag. This application is therefore considerably more cost-efficient than separate systems. At the till screen it shows up when a theft occurs. In addition a visual or acoustic alarm at the gate can be added. The RFID anti theft protection does not only report that a product has been stolen, but also which one and when. With this information, attention can be directed at product groups and times of high theft probability. At the same time stolen products can immediately be re-ordered, to guarantee availability in the shop.

This is the first installation in the fashion industry world wide that uses exclusively UHF EPC G2 theft protection. Two important corner stones make theft protection in this form technically feasible in the first place: the new UHF G2XL chip from NXP and the RFID/AutoID middleware You-R® OPEN. Application hitherto was still a bit difficult, because the traditional UHF RFID gates had a reading field, which was difficult to define; this often led to unwanted false alarms. NXP has therefore developed a novel reference gate that produces a precisely defined reading field. It provides an over 8 meter wide, open entrance area, which recognises products precisely, when they pass the exit, as if through a transparent, thin electric curtain. The UPM Raflatac's UHF EPC Gen 2 web inlay, which is used at Northland, was optimised especially for the requirements of fashion applications. With it an excellent inventory reading performance can be achieved even with textiles hanging closely to each other.

RFID at Seidensticker optimises logistics

Recently the German Seidensticker group, brand manufacturer of blouses and shirts, also relies on the advantages of RFID. Non-contact radio technology is used within the Seidensticker group to support logistic processes. Included in this project are manufacturing

companies in Asia and Eastern Europe, the pre-commissioning in the manufacturing companies and the stock turnover in the central warehouse. In a second step Seidensticker is testing if RFID is suitable for floor control in the company's trade. Expected, in addition to improved cost transparency, is a further simplification of the process and therefore higher transparency, more inventory safety and consequently also improved customer satisfaction.

RFID at Van Laack for production control

Van Laack has been specialising on the production of the core products shirts and blouses of high quality for the last 126 years. Handwork accounts for an average of 100 minutes per item. While the design and product development takes place in Germany, the manufacturing has for a long time, traditionally been done in countries like Tunisia or Vietnam. Atypically for the textile and clothing market Van Laack has built a long value chain. Not only for this reason they decided to make this process even more efficient with RFID. The use of RFID for identifying goods on the conveyor has been tested for several years. At the moment identification of single units is done via bar codes, medium term, the changeover to RFID using the EPC code for product tagging is planned. The combination of the unit independent EAN code from the bar code with the unit dependant EPC code would allow a consistent traceability of the products. The gradual introduction of RFID identification will start in product control, because the greatest backlog demand in the area of identification has been found there: at the moment the goods are manipulated with the aid of manual lists at around 200 work places per product unit. Optimising of inventory control or manufacturing lead times is therefore only possible under considerable effort. With RFID the lead time can be improved and orders can be completely processed easier particularly because of a drastically improved returns management.

RFID implementation with You-R OPEN based software modules has started in a production unit in Tunisia. Every production batch – consisting of several single panels - is fitted with a reusable tag that is recorded without contact at over 10 reading points. As soon as a product has been made of the single panels- shirt or blouse- tagging follows via disposable tags for re-inspection along the supply chain. At the final stage the potential number of units to be tagged altogether at van Laack is 1.3 million single units in nine production units. Per unit around 140,000 products are produced a year that would be suitable for disposable tags.

RFID at Sternjakob protects brand values

Sternjakob, manufacturer of the school bags, Scout and 4You, makes a point of offering its branded goods in appropriate surroundings. Three years ago Sternjakob stopped delivering wholesale, and distribution partners have to commit to distribute the branded goods not only over the internet. Nevertheless it happens again and again that products on the internet are offered for sale by commercial traders under a pseudonym. A fact, that the company feels is brand damaging and therefore it starts looking for the perpetrator. That is why in 2007 the idea was born to use radio tags, in order to monitor distribution channels.

All product lines of the brands Scout and 4You were fitted with transponders. Every one of the around 400,000 transponders already has a unique number ex factory. In the Chinese production plant these transponders are attached. In Germany six packing locations at the shipping point in Nuremberg and six packing locations in Frankenthal were fitted with antennas. These packing locations are solution modules of the You-R Fashion solution which uses You-R OPEN as the operating and integration platform. Only here the number of the transponder is allocated to the delivery. Therefore it is later possible to find out about the recipient of the shipment. All new product lines of the brands Scout and 4You, which have left the warehouses in Nuremberg and Frankenthal since 1 October 2007, can now be re-traced.

Future prospects

The variety of application possibilities shows, that RFID not only opens theoretical solution potentials, but combines technical feasibility with economic advantages successfully in different applied projects. Regarding efficiency and transparency, RFID is miles ahead of traditional applications, as for example the bar code. Future applications in the fashion industry can be found more and more in the area of floor management and will infiltrate the vertical market, where traders with store brands are responsible for purchasing and logistics themselves. They are more flexible regarding the implementation of new technologies and are therefore faster and more up-to-date than the traditional specialised trade. Hence a rapid growth of RFID applications in the fashion industry is anticipated for 2009 and beyond.