

What happened to the talking Package?

By: Marcel van Trier

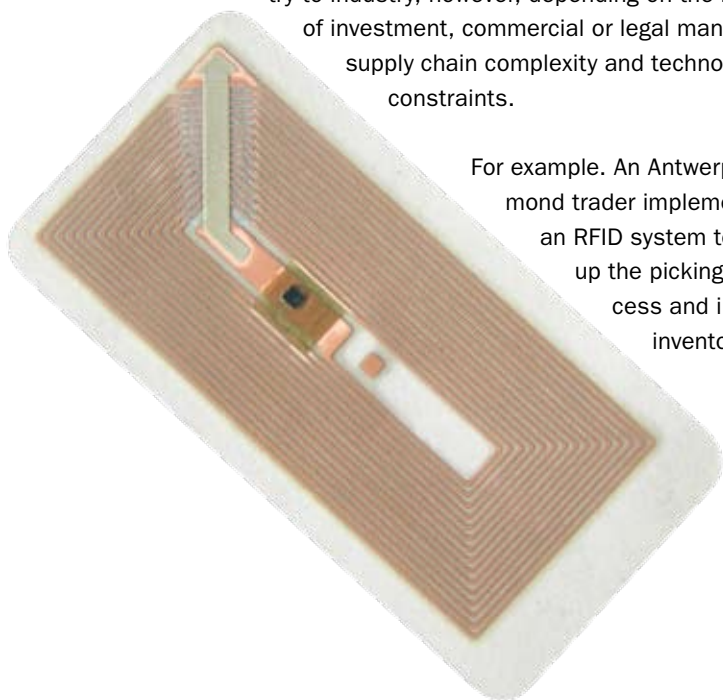
Not so many years ago, the general prediction was that by now (2006) retailers all over the globe would demand tiny chips in packages to enhance their logistic processes. This technology, commonly known as Radio Frequency Identification or RFID, has gained both fans and critics, but as loudly as it was advertised years ago, the more silent it seems right now. Does that mean that the technology fails to deliver its high ran expectations? Are the critics right that the technology is not safe? Should user companies wait for the technology to further evolve? Or are there already companies earning money by implementing RFID? And has the experience brought new and exciting applications?

Logistics, Traceability and Supply Chain efficiency

Because of the costs of individual tags, it is obvious that the first and current applications of RFID tagging occurs in environments with high value or high volume characteristics. The technology is already used for the tracking of freight containers, airplane parts, pallets and boxes containing razorblades or cell phones. It helps companies to make less human errors, to decrease human intervention and thus cost of labor, generates more and useful information on the flow of goods, and delivers proof of ownership.

The speed by which it is implemented differs from industry to industry, however, depending on the return of investment, commercial or legal mandates, supply chain complexity and technology constraints.

For example. An Antwerp diamond trader implemented an RFID system to speed up the picking process and improve inventory



control. The ROI was less than a few months. It was purely an internal system and the implementation could be finalized in a matter of weeks. Wal-Mart however, is implementing RFID in only a couple of warehouses in the US. Over one hundred of suppliers are requested to tag their goods. Dozens of stores are involved. Already the implementation is taking years. And although the possible savings for Wal-Marts global adds up to even billions, the ROI is still uncertain.

There is no copy-paste, ... yet

The bad news is: there are no off-the-shelve solutions for RFID implementation. Yet. The good news is that the number of applications are growing, the number of industries that apply the technology is increasing, the standards are more and more mature and the technology is evolving rapidly. Still, the message is: "There is no substitute for doing your own pilot".

Even in situations that seem alike, the number of variables that influence the outcome of a successful implementations is to big to simply cut-and-paste. Even constructional and environmental differences between two companies can have its influence on the read rate for example. There is no denying the law of physics with radio signals. And where reinforced concrete interferes with the signal in one application, others have used this characteristic to improve readability.

What else is new?

Ever since the introduction of commercial applications of RFID, we have seen people's imagination taking a leap. At 'Living Tomorrow' in Amsterdam, a prototype can be seen of a fridge that can order a carton of milk through the internet, when you take out the last one. Also this house of the future holds washing machines that detect your red sock in the white wash, by reading its RFID tag. And some more. The vision of things talking wirelessly to other things in a connected world will become reality sooner or later. Not only shall objects contain chips, but more and more sensors are added as well. This will lead to a bag of salad that can tell you its real and dynamic use by date, based on the temperature during transport, in stead of the current preprinted static sell by date. Inventory control will no longer take place following First In First Out principles, but First Expire First Out. So is RFID for consumer applications really that far away?

The answer is no. RFID technology is likely to be already in your pocket. Did you know that your car key is likely to deploy RFID? Over 150 million car keys have been equipped with a chip since 1991. A sensor in your car



detects the chip in your key and let's you turn on your car, preventing thieves from using a counterfeit key.

In the US and Asia, millions of credit cards are used with contactless chips that are accepted at McDonalds and 7-Eleven. You pay by just waving your card close to a reader.

All over the world, passports will be equipped with RFID technology this year. McCarran International Airport in Las Vegas, Schiphol Amsterdam and Hong Kong International Airport started large-scale RFID baggage tagging programs.

Change the way you do business

But there is more. Mobile phones use RFID and chip card technology to enable mobile ticketing and mobile payment. In Asia, but also in Germany, France and the US, you can pay for your train ticket by simply waving your phone next to a reader. Or, you can exchange concert tickets by holding together two mobile phones. This technology is commonly referred to with Near Field Communication or NFC.

Mitsukoshi department stores in Japan use RFID together with VoIP telephones in dressing rooms. This way, customers can check for availability of stock and call for assistance.

And retailers are interested to learn more about customers behavior in their shops. RFID is used next to movement sensors to see how clients walk through the store, or what the best place is for displays. In some cases, products are tagged for just a short period of time, in order to collect as many information about flows or usage as possible.

What about security?

RFID uses radio waves. By definition data is broadcasted through the air, which makes it theoretically possible to capture the transmitted data. Technology vendors will do their utmost to make applications safe. Credit cards for instance, transmit their data over a very short distance (centimeters) which makes it impossible to read your credit card from across the room. Furthermore, the technology used in payment application is highly encrypted. And even if you get mugged, the credit card company is liable for fraud. For passports security is a big issue. Identity theft is becoming a major issue and terrorists may target people from particular nationalities.

When?

With RFID there may be some hurdles, but these are not obstacles. The technology is evolving rapidly because of new experiences gained by companies that have started to adopt the technology. If you start thinking outside the box, suddenly a whole new spectrum of applications become appealing. Even with today's prices. ■

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