RFID – where will it go next?

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Radio Frequency Identification (RFID) has always been associated with speed and convenience. Quite simply, that's what the technology delivers. But if you associate RFID only with Supply Chain Management, transport or secure access, it's time to broaden your horizons. Within a few years, RFID will be making our lives simpler and easier in all kinds of ways. For instance, did you know it's already helping take the stress out of medical diagnostics as part of a unique hospital environment developed by Philips?

As a leader in RFID, Philips has long been helping its partners derive business benefits of this versatile technology. Extend these benefits into everyday life and you have a world where people, machines and goods can 'link up'.

A digital camera can show pictures on your TV screen simply by being placed next to it. A fridge knows what's in it and what has to be eaten today or thrown away. A plant pot knows what species is growing in it, and how much light and water it needs.

A trillion tags by 2015

The potential impact of RFID is so vast it is attracting the attention of industry and government worldwide. In October 2005, the Organization for Economic Cooperation and Development (OECD) dedicated a special session to RFID's economic promise and social implications. Delegates from business and research organizations highlighted applications from healthcare to tire pressure monitoring.

Christophe Duverne, Vice President of Philips' Identification business, predicts that RFID will become the prevalent 'electronic-based intelligence' technology of the 21st century, with a market of a trillion tags by 2015.

This bold vision doesn't ignore the privacy issues that talk of RFID everywhere (sometimes referred to as 'ubiquitous RFID') generates. Concerns over personal privacy, especially in sensitive areas such as healthcare and medicine, must be addressed. We recognize that many consumers want features such as the option to 'kill' RFID tags at the supermarket checkout, so they have control over what information they share with the store, manufacturer or service provider. Indeed, we are actively working with customers, industry partners and governments to create the technological and regulatory structures that will protect confidentiality and individual choice.

Nonetheless, the benefits of RFID are undeniable. It makes life easier - and not just in what might be called 'typical' applications. Philips has recently showcased product concepts that represent an expression of our promise of Sense and Simplicity over the next three to five years. Many incorporate RFID and / or intuitive wireless connectivity.

Next Simplicity

'Next Simplicity' concepts are based on a framework of simplicity-led design. This starts from the perspective of what makes sense in people's lives, and from simplicity in functionality and usability, as well as in look and feel.

Take the electronic 'In Touch' message board. It's an alternative to the 'message stuck to the fridge' or voice-mails left on answering machines - a common way of communicating in many busy family homes.

Doubling as a mirror, the In Touch board allows people to write or draw on it directly, or record videoclips and post them for other family members to see. People can send each other text, snapshots, even videos remotely, so they can keep in touch when away from home.

With something like this, when you are hurrying to the office in the morning, you might just place your finger on the image of a person's face then drag and drop it into the message you want to send to them.

Another Next Simplicity concept that uses wireless connectivity in a novel way is 'Momento'. Momento is a glass ball that provides instant access to precious memories. As an object, it looks beautiful on a coffee table or bookcase. Then, when you want to store some of life's best moments - a child's first steps or winning the big match - you simply place a device such as a camera next to the ball and it stores the data. After that, it's just as simple to view the images. One touch plays the first clip, a shake moves on to the next one.

RFID pops up in Philips' Next Simplicity concepts in contexts you might never have dreamt of: the 'Herbarium', a miniature solar-powered greenhouse, for instance. You simply place biodegradable pads - holding soil, seeds and an RFID tag - under an arch that provides light, heating and irrigation. The tag plays two roles. It communicates with LEDs on the pot to display the plant's name, so even the most inexperienced plant grower will know which plant is which. It also ensures each plant receives the light, water and nutrients it needs, and informs the owner when it's harvesting time.

Ambient Experience turns 'scary' into 'cool'

If this is the future, what of today? Our Ambient Experience confirms that RFID is being integrated into some surprising places. In this case, the world's first Ambient Experience pediatric radiology suite at

Chicago's Lutheran General Hospital.

Hospitals are stressful for adults and can be positively scary for children. The Ambient Experience brings together an MRI or CT scanner, ambient lighting, dynamic projection, surround sound and RFID technology to turn scary into fun.

"Let's say a young boy is going for a CAT scan," says John Anastos, Chairman of Radiology at the Lutheran General Hospital. "First, he gets to preview various animation themes. He chooses his favorite and takes a holographic RFID badge with a Philips ICODE chip. When he goes into the examination room, he waves the badge at the scanning equipment, and the walls and ceiling come to life with animations, accompanied by music and other sounds. It keeps him relaxed and it's a great way to give him instructions. When it's time for him to hold his breath, he sees a cartoon character holding his own breath!"

Clinical benefits

Everyone benefits, clinicians as well as patients. In a 'traditional' scanning situation, about one-third of children require sedation because they are unable to relax enough for a successful diagnostic exam. This can add six to eight hours of recovery time to a procedure that could be completed in 15 minutes.

'Positive distraction' keeps young patients calm so they're more likely to lie still. It also cuts down on the amount of radiation they're exposed to by avoiding the need for a re-scan.

RFID becomes part of life

"Innovative applications like Philips' Ambient Experience incorporate

RFID and Near Field Communications (NFC) in new ways and in new areas," says Frans Scheper, Chief Marketing Officer, Philips Semiconductors.

"RFID is a prime example of how advanced technology improves people's lives. It may be hidden, part of a wider whole, but it is a fundamental enabler that makes a product, service or experience simpler and easier. In a sense, it typifies our approach at Semiconductors. We deliver simplicity - through the technologies we provide and through the ways we work with our customers and partners."

"Looking ahead to what's next for RFID, it's very clear: 'conventional' applications such as SCM and retail may lead the way, but the potential goes far beyond them."

Source: Philips