

Can RFID Cure Healthcare's Ills?

Innovision Research & Technology says RFID can reduce human error in hospitals and save lives.

Nov. 12, 2002 – Late last month, 29 patients at a hospital in northern England were exposed to sporadic Creutzfeldt-Jakob Disease, the human version of mad cow disease, after infected equipment was used during surgery. The news highlighted the growing problem of tracing the use of medical equipment and ensuring single-use devices are not reused.

Innovision Research & Technology, a British company that designs and builds customized electronics products for its clients, says RFID can reduce the kind of human error that led to patients at Middlesbrough General Hospital being operated on with instruments that had been used on a person who had a brain operation in July.

The patient was diagnosed a month later with sporadic CJD, the human version of mad cow disease. CJD is caused by a prion that can't be killed by normal sterilization. Therefore, instruments used on a patient with CJD must be destroyed.

"We are working in partnership with a number of big medical device companies," says James Urie, Innovision R&T's business development manager for the healthcare sector. "We're looking at how their existing products and software could use RFID to help them to help hospitals and doctors to improve traceability and save patient lives."

Urie says the company is in the final phases of closing a deal with a major medical device company and an announcement will be made shortly. The actual product will be on the market in the first quarter of 2004.

Innovision R&T is mainly focused on developing solutions for tracking scalpels, catheters, forceps and other medical instruments used in large volumes. It recently opened an office in Dallas to begin going after the U.S. market, which accounts for about 40 percent of medical devices sold worldwide.

The company has developed a range of low-cost DataLabel RFID tags that are about the size of a fingernail and less than 1 mm thick (see illustration). Innovision R&T says the tags can be embedded in medical devices of almost any shape or size. The tags are passive (they don't have a battery) and operate at 13.56 MHz.

Urie says that systems can be set up at strategic points within a hospital, so that equipment arriving and put in storage can be read and recorded. Readers can then be placed around the doorways of operating rooms and other key areas, so the devices can be checked in and out and usage can be recorded.

Another big issue is setting up systems to avoid human errors. Innovision R&T, for instance, is working on methods of identifying luer connectors and catheters to make sure they are never accidentally mixed up on a patient. The company has also developed RFID wristbands, so those patients are never misidentified and given the wrong treatment.

Innovision R&T began focusing on the medical market in August 2001. Prior to that, one of its biggest market

was toys. It designed an RFID system for the Hasbro's Star War action figures after the release of The Phantom Menace. The toys sold 30 million units, making it the largest application of RFID ever.

"The toys industry is unpredictable," says Trevor Crotch-Harvey, head of Innovision R&T's DataLabel division. "You get a huge spike in sales of goods related to Christmas or a movie, then it drops off. If you can embed your RFID label in a device that the company will be selling for a couple of years, you get more recurring revenue. It takes longer to get that kind of business, but it is more stable."

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