

HIGH TECH

Pill package won't let you fib

Information Mediary Corp. sees a big future in scannable blister packs that record the time they were opened, writes ALEX HUTCHINSON.

It has been the Next Big Thing for a decade now, but RFID — radio frequency identification — is finally poised to go mainstream.

That development can't come soon enough for Ottawa-based Information Mediary Corp., which staked its future on RFID technology more than five years ago. Information Mediary's flagship product, a blister pack for pharmaceuticals that uses RFID to monitor when a patient takes his or her pills, has been available in prototype for three years, but the uptake of new products in the pharmaceutical industry is slow.

"This is not the cellphone business, you know," says Michael Petersen, the company's chief operating officer. "New models are not necessarily appreciated."

Information Mediary's big break came last year, when a major clinical trial sponsored by the U.S. National Institutes of Health ordered 30,000 of Information Mediary's Med-ic blister packs. The trial, which started in March of this year, will test a new drug on more than 1,100 patients suffering from chronic obstructive pulmonary disease.

"Now the rest of the market can't say, 'We would consider it, but we don't want to be the first,'" Mr. Petersen says. "That whole objection has been broken now."

Mr. Petersen formed the company with Dr. Allan Wilson, a University of Ottawa psychiatry professor, back in 1999, shortly after Mr. Petersen had sold his previous Ottawa-based company, iSCAN Intelligent Scanning. Dr. Wilson was seeking solutions to a common problem in clinical trials: patients who forgot to take their pills at the appropriate time, and then faked their compliance diary after skipping a dose or taking it late.

RFID tags provided a simple solution. Often touted as a next-generation UPC barcode, RFID tags consist of a microchip and antenna, which can range in size from less than a millimetre across to the bulky transponders used for automatic payment at toll booths. Each time a pill is popped out of a Med-ic blister pack, the microchip records the time.

When the package is returned to the doctor in charge of the trial, he scans the package in front of a reader, which extracts the data.

Since RFID tags are read with radio waves rather than lasers, they can be read through packaging with no direct sightline, and many tags can be read simultaneously.

And the microchip can be programmed to perform any number of sensing activities, a versatility that Information Mediary has always planned to exploit.

"We knew from Day 1, from even the original napkin design, that we at some point wanted to add temperature sensing to that platform," Mr. Petersen says.

The result is Log-ic temperature-tracking tags, built on the same plat-

form as the Med-ic tags. Designed to track shipments that are sensitive to temperature changes, they can be programmed to record if, for instance, a crate is exposed to temperatures of more than 10 degrees for more than 15 minutes.

While Med-ic has had to fight to create a new market, Log-ic has the potential to be a "disruptive technology" in an existing market, Mr. Petersen says. Current temperature-tracking products sometimes require crates to be opened to retrieve the data, and are more expensive.

The company currently has its circuit boards printed at a factory in Malaysia, and then finishes the tags at its Thurston Road location in Ottawa, where it has about 20 employees. So far, it has made 250,000 Med-ic tags, and it has orders for 30,000 units of the initial production run of Log-ic tags. To meet anticipated demand, they plan to open a new 200-person plant in Thailand in November, where tags will be assembled — though R&D will continue to be based in Ottawa.

Being located in Thailand has several key advantages: low skilled-labour costs, even compared with China; technology transfer incentives from the Thai government; and a ready market for Log-ic, since Thailand is the world's largest exporter of seafood. Of course, the recent military coup there adds a question mark to the plan.

"I might eat my words, but the best description I've read about it is that it's a pre-emptive counter-coup," Mr. Petersen says. "It's business as usual, and there's no issues at this point."

Another emerging issue for all RFID companies is the question of privacy. Some consumer advocates worry about a world in which every purchase is tracked and monitored — clothing company Benetton and British grocery chain Tesco both faced boycotts after trying to introduce RFID tags in their products.

"That concept hasn't really made it into the pharmaceutical supply chain," Mr. Petersen says. Since the tags can only be read from within a range of a few centimetres, the data would be difficult to intercept.

"And if you ever want to protect something from being read, if you're really paranoid, you can wrap it into a foil pouch," he says.

The next step for Information Mediary is to move Med-ic beyond the clinical trial setting into the consumer market.

Possible applications include home care, allowing doctors to remotely monitor patients who send data from their Med-ic packages over the Internet, and "patient education" packages that pharmaceutical companies give out to doctors.

Currently, the technology adds about \$15 to the cost of the package. The company is now being ap-

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WAYNE CUDDINGTON, THE OTTAWA CITIZEN

The radio frequency identification tags in Information Mediary's packaging can be programmed to perform any number of sensing activities, says company COO Michael Petersen.

proached by brand managers who want large volumes, but also want the price to drop below \$3.

"To do that, we'll need multiyear commitments with a minimum of one to five million packages per year," Mr. Petersen estimates.

Getting those agreements in place will take time, but after years of relying on employee-share cash, the privately funded company is finally getting commercial revenue from the

Med-ic line, and continues to get R&D investment tax credits. And with the early signs of success, venture capitalists are starting to knock on the door.

But Mr. Petersen, with a new-found patience, is hoping that the company won't need them. He is learning to wait.

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