

RFID Market to Exceed \$14 billion in Life Sciences

A new study shows that e-pedigrees, tracking and tracing biospecimens, electronic data capture of clinical information and other applications will drive growth over the next three years.

By Beth Bacheldor

Sept. 4, 2006—There's a multi-billion-dollar opportunity for RFID in the life-sciences market, according to a new report released by [Health Industry Insights](#), an IDC company in Framingham, Mass., that provides market research and consulting services to the health-care industry.

The study, conducted during a five-month period, leveraged global economic data, in-depth interviews with major health-care, pharmaceutical and bio-sciences companies, and economic surveys that Health Industry Insights conducts quarterly. The key finding: the growth opportunity for the total life science RFID market size is estimated to be \$9.7 billion today, and is expected to exceed \$14.8 billion by 2009.

The study identifies eight major applications for the use of RFID technology, including the tracking and tracing of biospecimens; electronic data capture of clinical information; the tracking and tracing of batch and process analytics; the management and replenishment of biospecimen samples; the tracking and tracing of demand-driven supply chains; the creation of electronic pedigrees, or e-pedigrees, to help improve drug safety and fight drug counterfeiting; the management of assets and equipment; and the management of employee access and identities. It also breaks out segments by technology (application software, HF and UHF tags, implementation services, middleware, outsourcing, readers, RFID network equipment and RFID printers) and geographical regions.

The greatest opportunity lies in e-pedigrees and drug safety, according to Eric Newmark, senior research analyst at Health Industry Insights and author of the study. E-pedigrees can document each move a drug makes as it traverses the supply chain, providing the name of the manufacturer, type of drug, manufacturing lot number, and other information. According to the Health Industry Insights report, if pharmaceutical companies put RFID tags on every drug today, the total market size would be \$8.8 billion market. By the end of 2009, that figure would jump to \$12.3 billion.

The next largest-sized market is the use of RFID to track and trace pallets and cases in the life sciences industry, at \$272 million. Newmark says that market will be worth \$957 million in five years. In third place is the use of RFID to manage and replenish samples, a market that today is sized at \$264 million. By the end of 2009, it will be a \$572 million market.

Surprisingly, the market that holds the greatest monetary opportunity—the use of RFID in e-pedigrees—is an area where return on investment has been difficult to find. That's largely because of the costs associated with putting RFID tags on individual bottles of drugs, and the fact that doing so, while improving drug safety, isn't delivering any improvement in efficiencies or other hard business benefits. "There are few pilots underway at some of the major pharmaceutical companies," Newmark says. "But we've seen a slowdown of the

development of new pilots. Most companies are still waiting to see a real, true return on investment."

Some of the other categories the study identified, such as biospecimen tracking, are already showing some monetary and business benefits from the use of RFID. Newmark pointed to a cancer research facility in France that has just finished a pilot that tested RFID tags on biospecimen samples. The Paoli Calmettes Institute's Cell Therapy Facility and Tumor Cell Bank stores more than 170,000 biospecimens, with 1,300 new samples arriving monthly.

Several years ago, the institute began using bar codes to label tubes and bags of specimens (replacing even more manually-intensive handwritten labels) that are cryogenically frozen and stored at very low temperatures. But the labels are often unreadable until the samples are unfrozen, and still have to be individually scanned, which is very time-consuming. Such problems lead to 5 to 10 percent of samples getting lost each year, and with samples worth \$3,000 to \$5,000 (a price that includes biology and medical annotation) the losses can add up.

The RFID tags tested in the pilot can withstand the temperature conditions and have proven to be much more efficient. Even at a cost of \$1 to \$2 dollars per tag, the company expects it could save \$2.3 million to \$3.9 million annually by eliminating just 5 percent of the samples lost, Newmark says.

The Paoli Calmettes Institute still uses printed labels for most items, but is starting to attach RFID tags to thousands of samples and may begin tagging liquid-containing bags, according to Newmark. The institute hopes to have all new incoming and outgoing samples tagged by the end of 2006, he says.

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