Startup Claims RFID Breakthrough

SmartCode, an Israeli company, says it can produce 1.2 million RFID tags per hour. Each would cost less than ten cents when ordered in volume.

April 30, 2003 - SmartCode Corp., a Tel Aviv company founded by former Israeli Intelligence RF experts, claims it has developed a patented process that enables it to manufacture 1.2 million integrated circuits per hour, compared to about 10,000 per hour for existing reel-to-reel machines. The company says it will be able to produce RFID inlays for 5 to 10 cents for orders of 1 billion or more units.

SmartCode has been in stealth mode until now, and it is still keeping its technology under wraps. It declined to describe in any way how it could assemble tags ten times faster than is feasible today. SmartCode president Avi Ofer said the company needs to protect its intellectual property.
The company was formed as a division of Digital Intelligence Systems in 1999 and officially began operating as SmartCode in November 2002. It is building a prototype now and is seeking to raise venture capital to fund construction of a 100,000 square-foot plant to mass-produce the RFID tags.

Ofer said that the company can assemble RFID inlays -- a microchip attached to an antenna mounted on a plastic substrate -- for 5 to 10 cents in large volumes. The company could integrate the inlay with a label and adhesive for an additional charge.

SmartCode says its technology will work with chips from almost any manufacturer, but it is looking to work with those producing low-cost chips. "Our main target is the EPC," said Ofer. "We are looking to join the Auto-ID Center later this year. We expect to begin producing tags around the second quarter of next year."

The SmartCode system would put it in competition with Alien Technology, which has developed a technique called Fluidic Self-Assembly for mass-assembling RFID chips into a substrate that can be easily attached to an antenna to create an inlay. SmartCode, however, goes a step further by actually creating the inlay.

Other companies have been looking to break into the market for assembling low-cost tag. Blackstone Technology, a Boston-based startup, said in December that it has developed a process for manufacturing smart labels that is ten times faster than current machines (see Label-Making Advance Touted).

Also in December, Matrics, a startup in Columbus, Maryland, revealed that it was working with KSW Microtec and Mühlbaeur of Germany on a high-speed, low-cost machine for attaching antennas to microchips (see Matrics To Sell New EPC Tag). And Philips Semiconductors is developing technology it calls vibratory assembly to mass assemble RFID micro chips (see Philips Unveils Low-Cost Chip Plans).

No doubt, there will be more players looking to jump into the market because any company that can truly mass-produce billions of labels at high speed and low cost could grab a sizeable chunk of the RFID market. Some venture capitalists see one company emerging as a dominant player, like Cisco Systems in the Internet router market. Others believe their will be many manufacturers producing a wide variety of tags, some costing a few cents and others costing as much as $50 or $100, depending on the application.

RFID Journal Home