

Nokia Tests Cell Phone Tracking

The Finnish phone maker will embed chips in individual cell phones and track them from manufacturing to retail locations.

Oct. 28, 2002 -- Back in June, Nokia began tracking shipments of cell phones to see if using RFID and GPS technology could reduce theft. The project, part of the U.K. government's chipping of Goods initiative, has been so successful that Nokia now plans to embed chips in individual cell phones and track them from manufacturing to delivery at a retail location.

During phase one of the project, dubbed CHIEFS, Nokia shipped the phones in sales packages with five or 10 phones in each. When the packages arrived at a DHL facility in East Midlands Airport in the U.K.'s Tri-Mex would put active (battery-powered) RFID tags on the packages.

The tags were read as they were put on a large trailer. The tags broadcast their unique identification number every 30 seconds. When they got to a local hub, they were scanned as they were taken off the trailer, then again as they were put on smaller trucks and finally as they were taken off the truck at the customer's site.

Tri-Mex has developed a system of tracking containers in transit using the Global Positioning System (GPS). For this trial, it combined its GPS tracking with Identec Solutions AG 's Intelligent Long Range active RFID technology, so the location of the goods when they were scanned was transmitted via GPS to Tri-Mex's control center. If the goods didn't arrive at the next point in the supply chain, or if they arrived at the wrong point, the system alerted staff in Tri-Mex's control center.

"It went very well," says a Nokia spokesperson who requested his name not be used. "We even attempted to fool the system by shipping the wrong goods to some customers, and the system picked up the error every time."

Nokia, DHL and Tri-Mex decided to expand the project to see if passive tags in the phones could be used to track individual items from the time a phone is made until the time it is purchased by a consumer. Nokia will embed 13.56 MHz tags from Escort Memory Systems in the phones and use EMS's LLP series readers, which are ISO-15693 compliant.

The benefits are expected to go beyond tracking the loss of single phones. Nokia believes it will improve customer service. Inevitable human error means that the company occasionally ships, say, 9,990 phones when a customer ordered 10,000 phones. By tagging each phone, Nokia can ensure that customers get exactly what they purchased.

"In time, you could have an electronic point of delivery at the customer's location," says the spokesperson. "If we are tracking a consignment of 10,000 phones through all the hubs and depots, and the customer had a reader, it could automatically register the receipt of 10,000 phones."

It's not expected that item-level tracking will eliminate theft or supply chain loss. Someone can still grab a phone of a truck. But the system will enable Nokia to identify where the problem points are in the supply

chain and investigate and perhaps change procedures.

Nokia also expects that the system could one day reduce the possibility of stolen phones being resold by unsuspecting retailers. Police and customs officials would also be able to determine immediately if a phone was stolen by reading the tag embedded in it.

"This technology gives us a much better chance of reducing losses," says the spokesperson. "All the parties involved in this project are eager to take it to the next level."

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