

Philips, SK Telecom to Test NFC in Seoul

The two companies are launching a trial of Near Field Communication technology in Seoul, Korea, that will let participants use their mobile phones to download music, unlock doors and pay for goods and services.

By Claire Swedberg

May 26, 2006—[Philips Semiconductors](#) and South Korean mobile telephone communications company [SK Telecom](#) (SKT) are launching a trial in Seoul, Korea, using Near Field Communication (NFC) technology to download content, unlock doors and pay for goods and services. The trial will include about 400 participants, about half of which will use phones manufactured with a Philips' NFC RFID chip, antenna and microcontroller. The other half will use phones retrofitted with what Philips and SKT describe as "plug and play" add-on NFC hardware (an NFC chip and antenna).

SK Telecom is providing the commercialized payment services, says Bettina Kuhrt, Philips Semiconductors' program manager for NFC projects, while Philips is contributing NFC phone hardware, software, reader chips and applications know-how. Philips is also working with a variety of partners for this pilot, including operators, service providers, handset manufacturers, credit card companies, consumer electronics manufacturers and retailers.

The company has been involved in several similar trials, Kuhrt says, in the United States, Europe (see [French NFC Payment Trial Kicks Off](#)), Taiwan and other areas. Since July 2005, Philips has been working with Taiwan's Proximity Mobile Transaction Service Alliance (PMTSA) to make secure payments using NFC for public transportation. "I think, by having these trials, we prove there is a global interest in this technology," Kuhrt says, "and we are able to bring a benefit to users, wherever they are."

The NFC-enabled phones, equipped with Philips' RFID chips compliant with the ISO 14443A standard for contactless cards (smart cards), can be read at a range of less than 10 centimeters (4 inches). As such, the phones can function like contactless cards to pay for goods and services or access facilities. The phones can also serve as RFID interrogators (readers) to read tags, download data and enable peer-to-peer communication with other phones and devices.

According to Kuhrt, the Korean pilot begins in June and will run for about six months. During that time, participants will use their phones to unlock doors and read active posters (i.e., those with embedded RFID tags). For access-control applications, the users will be able to open doors by holding their phones close to an adjacent interrogator. With active posters, users will present their phones close to the poster and download such things as wallpaper, ring tones, music and public transportation schedules.

Kuhrt says it will expand the pilot to include other uses for the phones—for example, paying for transit fare and gaining access to the underground rail system—as well as allowing users to make purchases at NFC-enabled stores. These transactions will then be charged to their credit card accounts. Select retailers will have payment terminals equipped with RFID interrogators so participants can pay at checkout by waving their NFC-enabled phones near the terminals.

"We hope to get consumer feedback," she says. "In the meantime, it is a good opportunity to demonstrate the flexibility of NFC technology. We have already had major trials in the United States and Europe. Having this trial in Korea shows that this is a global solution."

Earlier this year, Philips completed a deployment in Hanau, Germany, involving the Public Transport Authority, Rhein-Main Verkehrsverbund (the public transport authority for the greater Frankfurt), Nokia and Vodafone. In this pilot, NFC-enabled Nokia phone technology was utilized for electronic bus tickets and discount cards at some retail sites (see Bus Riders in Hanau Use RFID to Go). Philips is also piloting an NFC system at the Philips Arena in Atlanta, in which ticket holders can buy goods at the concession stands and download content from NFC-tag-embedded posters with their cellular phones (see Sports Fans Use RFID to Pay and Play).

Contactless payment solutions are expected to become more common globally. An ABI Research study, "Cards Today, Phones Tomorrow: Contactless Payment's Migration to NFC-enabled Devices," found that by 2010, more than 50 percent of cellular handsets—approximately 500 million units—will incorporate NFC capabilities. Japan and South Korea, however, lead the world in adoption of contactless payments, according to another ABI Research study, "Contactless Payment Markets in Japan and South Korea."

In Japan, financial services, transportation and mobile service companies have implemented RFID-enabled payment solutions. FeliCa-based smart-card payment solutions have been installed in mobile handsets, allowing their use as credit cards, prepaid e-money, transit cards and identification for entrance management.

Meanwhile, in South Korea, SKTelecom's collaboration with Korean mobile operator KTF in South Korea has led to the creation of a Universal Subscriber Identification Module (USIM) that integrates a 13.56 MHz smart-card solution into a cell phone so the device can be used for such tasks as banking, riding public transportation, carrying out stock transactions and purchasing goods and services.

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