

NFC Is Appealing But Lacks Infrastructure

A usability test performed by Philips showed that U.S. residents might embrace NFC, but an ABI Research report says the technology needs a stronger, more uniform infrastructure.

By Mary Catherine O'Connor

Apr. 6, 2006—A 2005 study commissioned by [Philips Semiconductors](#) and [Visa](#) showed that consumers like the convenience, ease of use and "coolness" of making transactions with mobile phones that enabled a high-frequency RFID technology called Near Field Communication (NFC). A report by [ABI Research](#), however, indicates more NFC-enabled phones and other infrastructure are needed before adoption will take off.

The study, designed to improve Philips' and Visa's understanding of the needs and interest of potential NFC users, took place late last year in a Philips lab facility in Atlanta. It involved three scenarios: purchasing a cup of coffee and Wi-Fi access at an NFC kiosk in a virtual coffee shop; downloading the URL for a movie trailer from a DVD retail display in a virtual store, then watching the trailer and purchasing the movie through an NFC-enabled set-top box in a home environment; and purchasing a ticket to an event through an NFC-enabled promotional poster. The study involved 20 participants, ranging in age from 18 to 40 years old, half of whom were women. All of the subjects were high school graduates who frequently use cell phones and also use credit and debit cards.

"Consumers were surprised to see how easy mobile payments were, and how fast the transactions took place," says Francesco Prato, business development manager of NFC for Philips Semiconductors.

Prato says the study provided Philips with insight into the importance of providing clear signage and instructions to the consumer making an NFC transaction, so that they know where to place the phone and whether the transaction was successful. It also showed that participants prefer to have phones set to initiate some transactions automatically, so they don't need to press any keys on the phone prior to conducting the transaction.

Though the usability test demonstrated that NFC technology could be well received by Americans, a study released this week by ABI identifies critical prerequisites to the successful worldwide deployment of Near Field Communication technology. The study points not only to unmet hardware and software requirements, but also to the need for increased interest and initiatives from mobile operators, as well as the completion and success of contactless payment trials. In Asia, mobile phones are widely used to perform payments and other transactions, but these devices use [Sony's FeliCa air-interface protocol](#) rather than NFC.

Erik Michielsen, ABI's director of RFID and M2M research, says ABI is surprised by the slow introduction of NFC-enabled handsets into the marketplace. Handset manufacturers [Motorola](#), [Samsung](#) and [Nokia](#) have created prototypical NFC-enabled phones for use in NFC trials, but to date, only Nokia has introduced a commercially available NFC-enabled phone—the Nokia 3220. To process the NFC transactions, the Nokia 3220 uses Philips' Smart MX NFC chip, embedded in a phone shell that can be swapped out for the factory-issued 3220 shell. This handset is being used for an NFC trial in Atlanta (see [Sports Fans Use NFC to](#)

Pay and Play).

Additionally, the research indicates that a uniform application programming interface needs to be created for NFC phones, to provide a universal platform for NFC software applications to communicate with NFC hardware. Despite the current hardware and software hurdles, ABI predicts more than 50 percent of all mobile handsets will contain NFC technology by the year 2010.

Michielsen notes, however, that the production of NFC phones is dependent upon demand from mobile phone network carriers, whom he says "have been hesitant to move forward with NFC handset requests" for trials and services. However, for carriers such as Sprint that provide cell-phone service based on Code Division Multiple Access (CDMA) technology, NFC phones are currently unavailable because CDMA-based NFC phones do not yet exist.

"There's no general incompatibility between CDMA and NFC," says Martin Buehrlen, NFC program director for Philips Semiconductor, "but the phone manufacturers have been focused on adding NFC to Global System for Mobile communication (GSM) phones." He says he has seen prototypes of CDMA NFC-enabled phones, but could not reveal the names of the manufacturers creating them. In Europe, all carriers use GSM technology, while in North America, CDMA dominates. Asia utilizes a combination of the two technologies.

The report predicts that the emergence of CDMA NFC-enabled handsets will promote more NFC technology trials, because more carriers in North America will then be able to participate.

Currently, Cingular Wireless is involved in the aforementioned trial in Atlanta. In Europe, Orange, the global mobile telecommunications provider owned by France Telecom, is involved in an NFC trial with Nokia, Samsung, a Monoprix supermarket, a Galeries Lafayette department store and nine other retail locations in Caen, France.

More technology trials, especially those focused on using phones for payments, are also vital to the successful, global deployment of NFC technology, according to ABI. The full 90-page report, "Near Field Communications (NFC): Simplifying and Expanding Contactless Commerce, Connectivity and Content" is available for purchase at the ABI Web site, priced at \$4,200.

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