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## Closing in on Commercial NFC

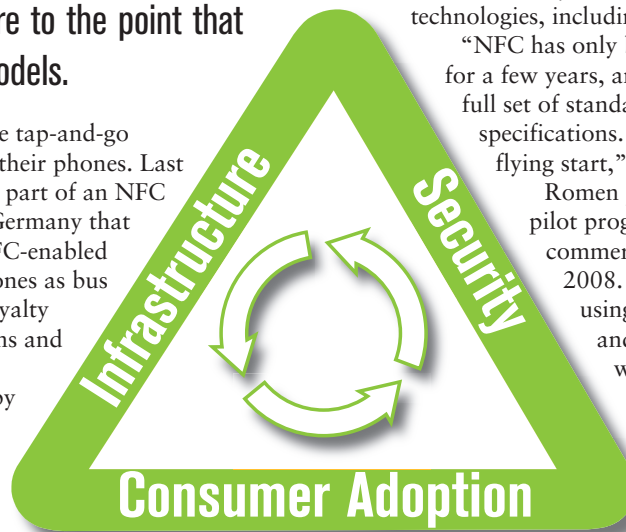
Near field communications (NFC) is starting to mature to the point that carriers are running trials and firming up business models.

BY JONI MORSE

**T**oday, roughly 40,000 U.S. merchants accept contactless payments, including McDonald's restaurants and 7-Eleven convenience stores. Other retail participants include pharmacy, cinema and gasoline chains. The push is on to place NFC chips into phones, which could save mobile subscribers the trouble of carrying an NFC-enabled card. ABI forecasts that 20% of the world's mobile phones will contain NFC chips by 2012. Although the standards are in place, carriers and financial institutions still need to hammer out business and security issues.

Three years ago, Japan's NTT DoCoMo began offering an NFC application that let its

subscribers make tap-and-go payments using their phones. Last year, Nokia was part of an NFC deployment in Germany that employed its NFC-enabled Nokia 3220 phones as bus tickets and as loyalty cards for coupons and other discount programs used by retailers. In France, Orange has used NFC to test handset transit ticketing and retail payments. Recently, in the United States, Nokia's 3220 NFC-enabled phone was at the heart of AT&T's NFC trial in Atlanta



MasterCard International, Microsoft, Motorola, NEC, NXP Semiconductors, Panasonic, Qualcomm, Samsung, Sony Corp and Texas Instruments.

Besides heading up Nokia's NFC market development efforts, Gerhard Romen is the NFC Forum's marketing chairman. He says he thinks NFC's development-to-market time has been relatively swift compared to other technologies, including Bluetooth.

"NFC has only been in development for a few years, and already it has a full set of standards and specifications. I'd say it's having a flying start," Romen says.

Romen predicts more NFC pilot programs this year with commercial launches in 2008. He says he thinks using NFC for payments and other conveniences will be commonplace by 2012.

In preparation for that widespread use, Nokia launched its third consumer-

ready NFC phone, the 6131 handset, during CES in January and is currently shipping units to Europe. Other vendors, including Motorola and HTC, also launched NFC-enabled phones during CES last spring.

### BUSINESS AGREEMENTS

One of NFC's struggles had been finding a revenue-sharing model that satisfies both carriers and banking institutions, which stand to gain substantially with user fees and other NFC-related revenues.

"The value-add here is that carriers will be able to enable people activating a new bank card within a minute," says Romen. "From the device point of view, the phone is a market driver. It's not just a phone in your pocket, it's a mini-computer, and once NFC is embedded on phones, users will be able to empower the computers in their pockets."

French digital security developer Gemalto is one of the world's largest SIM card

### Contactless Payments Study

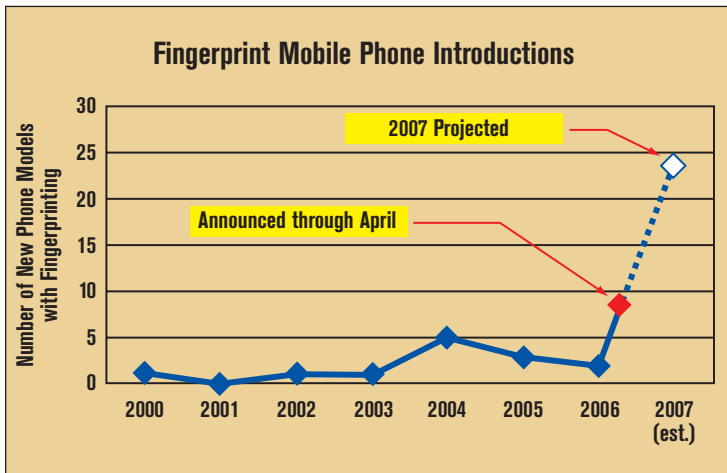
- 13% of consumers have used contactless payments
  - 90% reported very positive experiences with contactless payments
- 75% of consumers yet to try contactless payments are somewhat likely or very likely to adopt
- 85% of consumers are willing to make large payments (\$50+) via contactless technology
- Convenience is the primary motivator for contactless use
  - 71% reported faster checkout would cause contactless use
- Security is the primary barrier to contactless use
  - 61% of non-adopters cited safety as their top concern

Source: Javelin Strategy & Research

developers and has recently been involved with e-passports. Jean-Louis Carrara, vice president of Telecommunications Strategy & Solutions for Gemalto North America, says NFC business models are still being determined, but the advent of trials are a good sign that carriers and banks have some ideas.

“The market for NFC is limited right now because of a lack of agreements in various verticals,” Carrara said. “The technology is being proven. Consumers will be okay with having their payment card in a cell phone, merchants will embrace it because it will simplify and possibly speed up transactions with consumers, carriers will embrace it because it will boost ARPU and could cut down on churn and financial institutions will embrace it because it provides more revenue for them. The only question is how much will they pay the operators.”

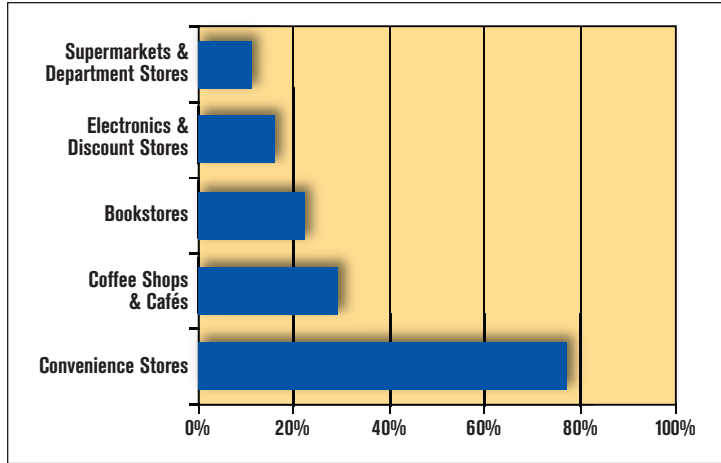
Security is another question mark in



consumers’ minds, according to Carrara. He says security of banking data and personal information is not at risk during NFC transmissions, but consumers aren’t completely comfortable with wireless security in general, and until their fears are quelled, uptake could suffer.

“When we make transactions with our

## Where Mobile Wallets are Used



credit cards, we are profiled, and we should be happy to be profiled,” says Carrara. “The information helps us in the event that our cards are stolen. We can get a phone call from our bank when unusual activity is detected. The adoption of NFC will lead to reduced instances of identity theft because banking information will be harder to steal or duplicate. Today, it’s relatively easy to steal credit card information.”

### SECURITY LAYERS

In addition to the NFC standards-driven security requirements, vendors also have been working on technologies that provide added layers of security by

authenticating users before authorizing payments or other transactions.

For instance, Silicon Valley-based Atrua develops mobile fingerprint recognition sensors for security and privacy control. Carriers and phone makers are looking for ways to keep that data secure, especially now that smartphone sales are registering greater

sales volumes, according to Carl Temme, Atrua’s vice president of marketing. “We’re seeing a big uptick in our sales,” says Temme. “We’re on pace to see about seven phones with our fingerprint technology this year.”

AuthenTec conveyed similar enthusiasm about its own biometric fingerprint sensor sales, saying it has shipped more than 7 million sensors to Asia that are incorporated into PDAs and cell phones

with NFC capabilities.

Andy Germano, director of wireless marketing at AuthenTec, says fingerprint sensors provide “peace of mind,” which is important since research indicates that there’s about a 25% chance that any given phone will be lost or stolen.

Other forms of identification include facial recognition, voice recognition and PIN codes, but Germano says fingerprints are gaining popularity over the other types of identification because of its reliability and economics. For instance, facial recognition can be thwarted by eye-glasses or changing hairstyles, while voice recognition has had problems with background noise. Also, adding fingerprint identification to a phone has dropped to less than \$10, according to Germano.

“Fingerprint recognition is the most popular because it’s a low-power application, and it’s very consistent,” says Germano. “And it has a certain cool factor. Taking a picture of yourself in public is just not as cool as sliding your finger over your phone. And speaking into your phone trying to activate a transaction is not very polite, nor is it secure. You have your fingers with you all of the time.”

Once carriers and financial institutions work out some of the details, it is clear that NFC is closer than you think. ■

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