

The Sony-NXP joint venture reports that its chip, which supports the Mifare and FeliCa protocols, is ready for prime time. In France, Carrefour embraces RFID payments by card and phone.

By Mary Catherine O'Connor

Feb. 17, 2009—During frequent business trips in Tokyo, Guus Frericks, president of RFID chipmaker [Moversa](#), uses an RFID-enabled cell phone to purchase coffee, access public transit and open the secured doors of the office building at which he meets his Asian colleagues. But when he's back in Europe, Frericks must employ a different RFID-enabled handset to make transactions or access public transit. He looks forward to the day when he'll be able to travel the globe with a single RFID-enabled handset—and he says that day is coming.

Both of Frericks' phones support Near Field Communications (NFC) technology, an RFID platform designed for short-range secure transmissions that comply with the ISO 14443 13.56 MHz air-interface standard and enable mobile devices, such as cell phones, to be used for making payments, collecting data or establishing peer-to-peer communications between multiple mobile devices. The problem, he says, is that they each utilize a different proprietary protocol to protect the transmitted data. In Asia, [Sony](#)'s FeliCa platform is used, while in Europe, it's chipmaker [NXP Semiconductors](#)' Mifare.

But Moversa was formed in late 2007 as a joint venture between Sony and NXP with the goal of creating an RFID chipset that would support both Mifare and FeliCa. At this week's [Mobile World Congress 2009](#) event in Barcelona, Moversa is demonstrating the new chipset—dubbed the Universal Secure Access Module (USAM)—in a prototypical handset made by Japanese manufacturer [Docomo](#).

In addition to supporting both the Mifare and FeliCa protocols, USAM also supports the data-security protocols used for RFID-enabled credit and debit cards issued through banks working with [MasterCard](#), [Visa](#) and other payment card brands. This means a phone carrying the USAM chip could be configured to function just like a consumer's RFID-enabled payment card, thereby adding another level of convenience for consumers.

But Moversa's real motivation behind the USAM chip, the company reports, is to offer handset manufacturers a single chip combining Mifare and FeliCa functionality that they can combine with an NFC module and build into their phones, thereby producing a product with global appeal. Cellular carriers in each major NFC market could then use the technology to roll out NFC services to consumers.

Moversa is making the USAM chip in both a form factor that can be built into a Subscriber Identity Module (SIM) card (such as [Toshiba](#)'s recently announced USIM) as well as a chip designed to be permanently embedded into a handset, so that handset makers can work with their phone carrier customers to determine the best form factor for their particular needs.

The final product will be a handset that someone like Frericks will be able to use whether in Asia, where FeliCa is the dominant security protocol, or elsewhere (namely, Europe and North America) where Mifare is dominant. The phone, he says, will switch between the two protocols seamlessly.

Of course, most consumers don't travel as widely as Frericks does, and his is not the main use case—though the large number of Asian consumers likely to travel to London, where Mifare is used, for the 2012 Olympics should represent a short spike in the global-use scenario. A more common use case, he says, will be consumers in both markets using their phones as payment devices for everything from transit fares to meals in restaurants at which RFID payments are accepted.

"There's a lot of merit in [USAM]," says Jonathon Collins, an analyst at [ABI Research](#), "because it is supporting not only Mifare and FeliCa, but also the [MasterCard] PayPass and Visa Wave payment protocols. The real value here is opening up not only transport applications, but also other payment applications [on a single platform]."

Multiple pilots throughout the world have proven that consumer interest in NFC is strong, and that the technology works as advertised. Asian markets have embraced NFC technology for many years, while in Europe, it's still new but slowly picking up momentum. Londoners have long utilized NFC technology in the form of the Oyster public transport fare card, used to allow quick access to the subway. They are keen on employing NFC phones to access transit and make payments, as illustrated in the results of a pilot program conducted last year involving carrier [O2](#) and [Barclays Bank](#) (see [O2 Customers See Value in RFID-enabled Phones](#)).

In North America, the technology has not really lifted off, despite numerous trials on that continent. One major hurdle is that the infrastructure commitments required among the various stakeholders—handset manufacturers, cellular carriers, financial institutions and merchants—are new and complex, requiring the creation of a third party to manage the business administration tasks, as was pointed out late last month in a *New York Times* [article](#) on the topic.

All parties stand to gain, both financially and through customer loyalty, by supporting the technology. But with little in the way of a roadmap to follow, adoption is slow (see [Could NFC Fail to Take Off?](#)). What's more, all of the development work to build NFC capability into cell phones has involved handsets using GSM cellular technology. Many phones in the United States are based on CDMA cellular technology, but no NFC-enabled CDMA phones have yet hit the market. However, [Inside Contactless](#), a manufacturer of NFC chips, announced this week a partnership with [Qualcomm](#), which produces CDMA chipsets used in cell phones. The partnership could signal that a CDMA NFC handset will soon become a reality.

Aside from the strong push toward NFC in England, Paris is also moving toward the technology through NFC trials. [Carrefour](#), a French chain of hypermarkets (which combine a supermarket and department store in a single facility), has begun accepting RFID and NFC payments and is issuing a new store payment card known as Pass—an RFID-enabled version of its existing branded credit/debit card. The

Pass card contains a Mifare chip and supports MasterCard PayPass contactless payments.

Collins says he is encouraged to see Carrefour putting a stake in the ground by offering the new RFID (or contactless, as the technology is referred to in the payment industry) options. "We've been trying to explain for a while the potential around bringing contactless into the retail space," he states, "because retailers can leverage it for better customer relationship management, improved loyalty [and] better [payment] services."

More importantly, Carrefour has also joined with a number of other French retailers, as well as those companies' financial services partners and three cellular carriers—[Orange](#), [SFR](#) and [Bouygues Telecom](#)—to advance the rollout of NFC technology in France. By Christmas 2009, the firms hope to begin large-scale pilot programs that will enable consumers with cell phone accounts from the three carriers to use their mobile phones to pay for purchases in the retailers' stores, as well as to receive and redeem mobile coupons, and to replace their existing store cards with virtual loyalty cards running on their phones.

The phones used in these pilots by French consumers may contain the new USAM chip, as Moversa indicates it plans to begin sampling the product to selected customers during mid-2009.

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