Biztech : Safety at your fingertips: EU breaks ground

By Brad Spurgeon International Herald Tribune

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Instead of having to punch a code into an automated teller machine, imagine if the machine accepted or rejected the transaction based on a fingerprint. That is one of the ideas behind the FingerCard project, a program funded by the European Community that concluded in Brussels this month.

Electronic fingerprint recognition is already used in border control and vault security. But FingerCard sought to see if the technology was advanced enough to be incorporated into the common smart card, like that used for banking throughout Europe.

"Bringing biometrics and smart cards together is a significant step in enhancing security and privacy," said Brigitte Wirtz, who led the program for Infineon Technologies AG, the German chipmaker that had already developed both the fingertip sensor and the security chip used on the card.

Researchers concluded that while the project is feasible, much work remains to be done both on the technology and on consumer and industry acceptance before the fingerprint is ready to replace passwords or personal identification numbers in the mass market.

"There is still a lot of work to do to make it commercialized," said Farzin Deravi, a professor at the University of Kent, in England, one of the FingerCard partners. The university tested the cards on 200 volunteers in various projects.

Funded with an EU grant of €1.2 million ($1.2 million), the FingerCard consortium consisted of 10 partners, led by Infineon. The grant came from an EU program, started in 1999 and ending this year, that aimed to bring scientific research closer to the public's social and economic concerns.

"Fostering this technology development as well as assessing it, evaluating it, looking at performance and looking at user acceptance — this complete bundle was something that has not been done before," said Wirtz, a biometrics expert.

The key to the success of the FingerCard concept in the business world is not only that it should be secure but that it save companies money, according to Lars Lundgren, sales manager at Fingerprint Cards AB of Sweden, which makes fingerprint recognition systems and which was not involved with the project.

For example, he said, PIN and password problems cost some companies $80 to $250 per employee per year. Studies by Gartner Inc. show even higher figures, with one saying that password management costs companies up to $300 per employee per year. That includes lost productivity from users who have forgotten their own passwords and therefore cannot work.

Lundgren said that if a fingerprint smart-card system were proved to reduce such costs, business would have an incentive to develop it.

Still, security remains one of the main issues for the business world, according to Henning Arendt, a German business consultant and biometrics expert for the EU.

"Biometrics is never 100 percent sure," Arendt said. "So business must have somebody who decides that 90 percent biometrics is 100 percent access. This is a difficult management decision. Who is going to take the risk?"

The project did have its successes. Deravi said the card could actually "promote anonymity." For example, hospitals might issue patients fingerprint cards carrying information about their medical situation, but not their name, as a way to collect research data.

In another test, HSB Cards & Card Systems BV, a Dutch smart-card company that was also a FingerCard partner, ran a project for Parkinson's disease patients in the Netherlands. It was particularly useful for patients who are physically incapable of typing a password or a PIN code, as they need only press their finger on the sensor.

Deutsche Bank AG, another partner, successfully applied the FingerCard to its business-to-business "bankline" service for corporate clients, which allows executives to transfer large sums of money online and for which they now use passwords, PINs and smart cards. But the bank has made no commitment to taking the model beyond the trial stage.

Unlike most other fingerprint biometrics technologies, the FingerCard prototype runs mostly from the computer chip and a fingerprint sensor — both of which are embedded in the smart card itself — rather than using bulkier fingerprint readers and sending information back and forth between a terminal and a remote database.