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Biometrics taps growing desire for security

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Fingerprint locks are becoming a reality, writes Cynthia Karena.

Fingerprint access is coming to a door near you. A fingerprint recognition device designed to replace door keys, pin numbers and card swipes has been recently launched by Australian security technology company Bio Recognition Systems (BRS).

The device, called the BioLock, recently won the "Most Innovative Security Product" award in the Sensor category at the Annual Security Summit, in California.

The judging panel was made up of international security experts including global law enforcement and defence technology experts. One of the judges, a senior US naval officer, is in early talks with BRS about a possible contract to supply BioLocks to the US navy.

BioLock is the world's first weatherproof, dustproof fingerprint access control system, and works in temperatures from minus 18C to 50C.

BRS spent four years developing the product.

"In general, biometric products are big, ugly and expensive," says chief executive officer Jim Stamatelos. "We've made it slick, sexy and easy to use."

A biometric is a unique and measurable characteristic of a human being used for identification, in this case, a fingerprint.

The lock, which costs about \$1000 a door, can operate in stand-alone mode or networked through a PC.

The market for biometric access control is one of the fastest-growing in the world, says Mr Stamatelos.

"There are security concerns in the US since September 11. It is needed in high-crime cities, such as Johannesburg in South Africa. In Eastern Europe there is organised crime. In Colombia and Venezuela there's kidnapping."

The company is setting up distribution agreements in Latin America and the US.

But just how secure are fingerprint scanners? The guys from the Mythbusters TV program broke into fingerprint scanners using a latex fingerprint copy.

"The latex fingers will get past most or all the optical biometric units," says Michael Soire, senior design engineer at BRS.

"Sometimes just a photocopy of the fingerprint can get past them; they just look at the surface of the finger, like a picture."

But BRS uses radio frequency fingerprint sensor technology to see through the outer skin layer to the fingerprint underneath. "You will not get past a BRS BioLock with a latex finger," says Mr Soire.

"We look at the fingerprint inside the finger, not on the surface, and the electrical properties of the finger are also measured for live

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finger detection."

This means the time-honoured movie technique of chopping off someone's finger can't be used. "That won't work as there is no pulse," says Mr Stamatelos.

"And if you are held at gunpoint, you can tap two or three times. The system recognises the tapping as a stress signal and an alarm will be (secretly) set off, while still allowing access."

Mr Stamatelos says market trends include combining biometrics with other technologies into new applications. "Biometrics is no longer just about access. The real innovation is in the integration with other applications like ATMs and mass transit systems to reduce identification fraud.

"Fraud in the developing world is a big issue. In Nigeria people are collecting pensions for people who have passed away, or for their 'sick' mother. In Colombia, (ineligible) passengers travel on concessions."

However, the trend in the developed world leans more towards home automation. For example, a BioLock system could be set up where in winter the right index finger could turn on lights and heating as you walk in the door. You can program different fingers for different home functions.

"Usually, one or two fingerprints are used, but with BioLock you can program all 10 fingers," says Mr Stamatelos.

Being a small Australian company has its advantages, he says. "Large companies such as Sagem have invested tens of millions of dollars and have developed their products. It's hard for them to go back to the drawing board once a product has been developed. The big companies are always slower to change. Small companies like us are nimble.

"We can't go toe-to-toe with them and their huge ad campaigns, so we target (specific markets such as) mass transit systems and child care centres."

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