Old-fashioned signature ousted by technology of the fingerprint
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Biometrics, a technology that can identify individuals by physiological properties, is about to be put into use in Ireland as Minister for Communications, Mr Ahern, plans two pilot projects for the delivery of public services, writes Jamie Smyth.

Iris scans, fingerprints and voice recordings form the basis of a raft of enhanced security features being introduced across Europe, the US and Asia in response to the increased terrorist threat posed by September 11th.

From Brunei to Germany, governments, the military and private firms are introducing systems that record personal identities and can validate physical, or logical access to buildings or computer networks. There has also been increased pressure from governments for the introduction of secure national identity cards with embedded microchips that can store personal information.

Many systems are based on biometrics, an emerging technology that provides reliable identification of individuals by measuring different physiological properties. The most common features used are fingerprints, facial features, palm geometry and the iris. Biometric technology is used to enable IT systems to establish the uniqueness of an individual's identity.

Irish technology firms - although playing a key role in promoting the uptake of biometrics abroad - have not had much success to date selling into the domestic market in the Republic.

"We have not bothered much here up to now," says Mr Oliver Tattan, chief executive of Daon, a Dublin-based firm that chairs the European Biometrics Forum, and exports its biometric systems to Britain and the US.

Daon is installing several different biometric security systems at London City Airport that will store and validate the identities of its 1,800 employees.

"A lot of our investment is going to the US. . . We have sold to the big pharmaceutical companies, banks and airports," Mr Tattan says.

But he believes there may be an opportunity for the Republic to become a "biometric hub" because of the clutch of high-tech security firms based in the Republic such as Baltimore Technologies, VoiceVault, Hush Communications and Symantec.

Government plans to set up pilot biometric projects - outlined in today's Irish Times - suggest the industry will shortly receive a boost from the public sector. The Minister for Communications, Mr Ahern, has confirmed he will set up two pilots for biometric-based passports and a biometric-enabled ID card that can be used by road hauliers. Both are outlined in a new Government-commissioned report: Applying Biometrics to the Delivery of Public Services in Ireland.

Other possible uses for biometrics mentioned in the report include: systems that register civil servants' biometric identities, which can then be used to validate network logons to PCs; introducing a biometric identifier in the new credit-card style driving licences; and a plan to enable citizens to use such an application to undertake public services transactions under the Reach project - which proposes to offer all public services online.

The first and most high-profile pilot project will create a gate at Dublin Airport to fast-track public servants who agree to use a biometric-enabled passport with a unique biometric identifier, such as a fingerprint, stored on a microchip. This document or indeed the fingerprint of the individual could then be cross-checked against a computer database created during a registration process to identify an individual.

The project would form the first official Government response to a new law introduced by the US last year, the Enhanced Border Security Act, that will remove the visa waiver status that Irish citizens enjoy with the US, unless its citizens agree to carry passports with biometric features from October 26th, 2004. A team of officials working with the Department of Communications are working on the pilot.

The technology that drives this type of system is already being tested by several biometric firms, including Daon, which wants a slice of the multimillion contract that will shortly be put out to tender by the US.

Sitting in Daon's offices in Dublin it takes only minutes to register for a mock biometric-enabled visa to the US.

It works by using a small scanner to take a measurement of 20 points on a finger, these are then digitally encrypted as a unique identifier and stored on a server. An immigration official would then be able to call up the biometric identifier on his computer and cross-check it with the traveller's own fingerprint to ensure the person's identity.

Taking finger measurements is probably the most efficient biometric for this application, says Mr Tattan, because iris scans can be more invasive and take longer.

However, Irish civil liberties groups have already expressed concern about introducing a biometric-enabled passport.

"The worry is that these could be used to do background checks on travellers and that safeguards for people's privacy would not be prepared," said a spokesman for the Irish Council for Civil Liberties.

One thorny issue that will have to be dealt with is whether the US authorities should be given the biometric data of Irish citizens to cross-check against their own fingerprints.

In practice, that may be unavoidable after October 2004 because people applying for visas may have to provide this biometric data at US embassies worldwide.

Similar civil liberties concerns surround proposals by the British government to introduce an identity card that may include some biometric data on individuals.

A consultation process on the matter is due to conclude shortly, and civil liberties groups are expected to campaign against bringing in a card.

But biometrics are already used by the Garda Síochána and the Office of the Refugee Applications Commissioner (ORAC) to monitor the movements of asylum seekers in the Republic. Since September 2002, all new asylum seekers have had their right index fingers copied and stored on a computer chip on their Temporary Residence Cards.

The data is also stored in a central database at Garda headquarters and at the ORAC for cross-checking.

The Department of Justice says the measures are required to facilitate the detection of multiple asylum applicants and to apply the Dublin convention - which forces asylum seekers to seek asylum in the first European Union state at which they arrive.

A new Europe-wide system that will use biometrics to monitor and enforce this provision will go live next week.

Eurodac is a central database of fingerprints that can be stored for up to 10 years and is accessible by all EU member-states.

Both these systems have been criticised by the Irish Refugee Council, which believes fingerprinting stigmatises asylum seekers as criminals. It is concerned that the fingerprints are used for only asylum applications.

Many biometrics experts believe the common public connection made between fingerprinting and criminality could undermine the widespread introduction of similar technologies.

Indeed, the Government report, prepared by PA Consulting, acknowledges the sensitive nature of biometrics and public perceptions that it could be used to undermine privacy.

It criticises recent films that depict biometrics being used as methods of social control, and calls on the Government to take a strongly supportive stance and manage public perceptions of the technology.

But there may be support from some groups for the introduction of schemes, which may curtail liberties but would also increase safety for members.

Mr John Guilfoyle, former president of the Road Hauliers Association, said yesterday a more secure ID card for hauliers that was connected to a cabs tachograph (a machine that monitors the speed and distance travelled etcetera of drivers) would be positive for hauliers.

And selective use of biometrics by the prison service has proved the technology can deliver cost savings. The deputy governor of Cloverhill prison, Mr Sylvester Salley, says the use of palm readers to open gates at the prison has saved money and enabled staff to do more interesting work.

Clearly cost savings, combined with greater security in the post-September 11th world, will boost the adoption of biometrics and create opportunities for Irish firms. The consequences for individual privacy will be less easy to assess.

What are Biometrics?

Biometrics are automated methods of recognising a person based on a physiological or behavioural characteristic. Among the features measured are; face, fingerprints, hand geometry, handwriting, iris, retinal, and voice.

What are they used for?

Biometric technologies are becoming the foundation of new highly secure identification and personal verification solutions. As the level of security breaches and fraud increase, more firms and government's are introducing biometrics for offer greater security.

Key National policy recommendations

Key recommendations in the PA Consulting report Applying Biometrics to the Delivery of Public Services in Ireland:

Government should develop a national policy framework to develop, explore and guide the use of biometrics. This should consider the impact that the technology would have on society, and assess business and economic implications.

Government should adopt a strongly positive stance on biometrics and pro-actively set out the case for the technology. This stance will require a strong pro-active public relations dimension.

Government should consider early implementation of a biometric network log-on facility for all civil servants.

Government should consider - as a matter of urgency - introducing a new biometric smart card for hauliers, which can be used with cab tachograph machines to monitor a drivers non-compliance with driving regulations.

Government should set up working groups to consider taking three further biometric applications to a business case.

Adding a biometric to driving licences to increase trustworthiness of the documents. The introduction of the penalty points system adds some urgency to the planning of this application. The first task should be to assess whether the current drivers licence is robust against tampering and fraud to enable the penalty points system.

Using a biometric to enable citizens to securely interact with public services such as social welfare under the Reach project. A feasibility study should be undertaken as part of the Reach project.

The biometrics industry should submit proposals for biometric methods to identify and record the nature of the clinical decision-making process. This would enable better management of clinical risk - a particularly strong theme in healthcare.

Other possibilities for biometrics include passport control, electronic voting and civic registration.

Irish pilot project on passports prepares for change to US law
By Jamie Smyth
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The public may eventually be fast-tracked through Dublin Airport if a pilot project, which applies some of the latest technology to passports, is successful.

The project involves embedding biometric data such as fingerprints or iris scans in some passports this year. It is being undertaken to prepare for a new US law which requires all 28 states in the US government's visa-waiver programme to provide biometric data on all newly issued travel documents.

The Enhanced Border Security and Visa Reform Act was passed following the September 11th attacks. It will prevent people with travel documents issued after October 2004 (including renewed passports) from entering the US without a new biometric-enabled visa or passport.

The Government project will establish a special gate at Dublin Airport to process the new biometric passports, which initially will be used by civil servants who agree to take part in the scheme. If successful, the system may be extended to the public.

No decision has been taken yet on whether to use fingerprints, iris scans or palm readings for the passports.

Biometric technologies harness people's biological characteristics and sort, match and identify these for a range of applications, mainly for security. The most popular biometrics are used by police forces and government agencies in the US and Britain.

The Minister for Communications, Mr Ahern, has asked officials to prepare the pilot in response to a report which urges the Government to strongly support biometrics.

Applying Biometrics to the Delivery of Public Services in Ireland, which was prepared by PA Consulting, also recommends that the Government consider using biometrics in the new credit card-style driving licences; in the management of clinical risk in hospitals; and in an ID card for hauliers.

A spokesman for Mr Ahern said yesterday it was important to get a project in place before October 2004 because of the new US law. He said the Minister recognised there may be some misgivings about the new technology but that it could dramatically increase security.

He also confirmed that a second pilot scheme which will embed biometric data in hauliers' ID cards would also be introduced this year. Mr Ahern would discuss the issue with the Minister for Transport, Mr Brennan shortly, he added.

But civil liberties groups may oppose biometric-enabled documents which they feel could infringe privacy.

The Irish Council of Civil Liberties said yesterday it had concerns about the widespread introduction of biometrics to passports. "The real danger is that this data could be used for purposes other than legitimate regulating of exit and entrance to a state . . . It is also a concern who has access to this data."