With their finger on the pulse

RFID can solve the problem of locating and securing files, improving government service delivery and worker productivity and saving the taxpayer money

by Hugo Mc Cafferty

As of November 2007, applicants applying for the second generation of Germany's ePassport have to provide fingerprint images of both left and right index fingers. These images are scanned through 18,000 fingerprint live scanners installed across Germany. The fingerprint images taken are stored only in the RFID chip of the electronic passport, along with the facial image and personal data. From almost 6,000 passport offices in Germany, the data are sent electronically to Bundesdruckerei, Germany's former state printing house, who also placed the order for the fingerprint live scanners.

The fingerprint scanner

Dermalog Identification Systems won a contract for more than 14,000 fingerprint live scan devices for this project. The chosen fingerprint scan device, Dermalog's ZF1, is certified to comply with the TR-PDÜ standards set by Germany's Federal Office for

Information Security (BSI). The new, TR-PDÜ quality standard for fingerprint live scanners for ePassports was set by BSI in order to ensure international interoperability and highest quality of the fingerprint images. The TR-PDÜ standard is similar to the FBI Appendix F quality standard, but has been adopted to single fingerprint scanners.

The ZF1 has many advantages. According to Dermalog, in addition to the BSI and FBI certifications already received, the scanner is also much smaller than those of its competitors. The competitive pricing of the ZF1 was also an important criteria for selection by Bundesdruckerei. Furthermore, Dermalog's software and devices comply with many other standards such as Ansinist (PIV & WSQ), Minex, and ILO.

Asking Oliver von Treuenfels, sales director at Dermalog, about the challenges faced by the company in this large scale project he answered: "The challenge was the fulfillment of the delivery schedule combined with the very detailed quality assurance methods requested.

The Dermalog ZF1 fingerprint scanner which was chosen for Germany's second generation ePassport project

Well suited to RFID applications

The ZF1 live scanner is indeed one of the smallest optical fingerprint scanners available for flat scanning of individual fingers. It is designed for use in civil applications for fingerprint identification and verification. The ZF1 has many desirable technical features, for example live fingerprint detection, which ensures detection of fake fingers. Furthermore, dry and or completely wet fingers are no longer a problem.

Furthermore, the order was for a large number of units, but we were able to manage everything. Germany is the first European country adding the fingerprint biometric to the ePassport and our ZF1 was designed for such projects. We've started with a fair but very demanding customer, so it was a real challenge. We are now really prepared for similar projects and there are many more to come." Von Treuenfels believes that the world is watching what has been done in Germany and the successful implementation will promote the use of fingerprint biometrics within travel and ID documents.

Biometrics in ePassports

Due to the fact that the fingerprint image file sizes are small – only 10 kilobytes in the WSQ format – they are well suited for applications using RFID technology, such as ePassport projects.

Germany is the first European country to use fingerprint biometrics within its new electronic passport, allthough the deadline set by the European Union for compliance and migration to next-generation ePassports is June 28, 2009.