Secure Border Control Processes

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Abstract

Border control is one of the primary tasks of the Federal Police. Being able to identify persons and determine a unique match between them and their documents is an important part of this task. Biometrics can be a useful tool to help us carry out this task in the future.

1 Security architecture in Europe

The security architecture in Europe, which is characterised by shared external borders for Schengen member states and the removal of border controls between the Schengen contracting states, requires standardised border controls at the external borders of the zone.

Authorities in contracting states collaborate in the following areas of activity to achieve a common standard for border control.

- Standardising formats for identifying documents
- Defining technical requirements for border control technology
- Preventing the manipulation of personal data and associated biometric characteristics during their capture
- Establishing training standards for border control personnel
- Using high-availability information networks to interconnect member states

Each contracting state in the Schengen area has undertaken to uphold the agreed border control standard at its external borders. Close collaboration is required at international level, especially within Europe, to fight organised crime, protect against terrorist activities and stop illegal immigration. DG JLS* and FRONTEX* help coordinate
operations at EU level.
The border authority in the Federal Republic of Germany is the Federal Police.

2 The complexity of the border control process

Travellers are subject to either a minimum check or a detailed check. The traveller’s nationality determines which of the two options will apply. Police control of cross-border traffic involves examining documents required for crossing the border as well as other checks. These include determining that the identity of the person in question matches the document that he or she has presented, examining the document for authenticity and querying the INPOL* crime database.

The following factors have a crucial influence on efforts to accelerate border control processes:

2.1 Traveller classifications

For travellers within the Schengen area, the border control process makes a basic distinction between EU citizens, non-EU citizens, and non-EU citizens with residence permits or freedom of movement.

One approach of modern, efficient border control is the use of PRE-BORDER LANES that automatically divide passenger flows based on the different control requirements, depending on nationality.

2.2 Traveller identification and authentication

Determining a unique match between an individual’s personal data and the personal data on the identity document which that individual presents (passport, identity card) is a crucial part of the police control process.
Critical factors include the quality of the photographs (e.g. lack of a profile shot / size of photo), stains and signs of wear on the document, failure of travel documents to conform with ICAO requirements, and mistakes made while manually entering personal data in police information systems.

Standardised travel documents that communicate directly with control systems (electronic passports) and biometric systems that can verify an individual’s distinctive features would greatly improve the quality of the control process in this problematic area.
2.3 Identifying forged documents

Countries around the world use a wide variety of security features to make it difficult to forge travel documents. Checking these documents manually requires border control agents with highly specialised training. Greatly complex, intelligent technology is needed to keep check times to a minimum.

2.4 Application of national and EU legal provisions

The job of verifying residence permits, visas and the time a person may spend in the Schengen area, coupled with the multitude of supplementary regulations and the large number of extremely diverse documents presents considerable difficulties, even for legal experts. A significant amount of time is required for the linguistic and psychological aspects of the check, as well for applying border control stamps to the travel document and subsequently evaluating them. Thus there is a need not only for better technology and more training for personnel, but for harmonisation with regard to legal issues.

3 Risks and opportunities of biometrics in border control

The following principle should apply when selecting biometric characteristics to be used for verification purposes:

“Technology must adapt to people, not people to technology.”

This presents a special challenge for research and development in the area of border control.
In practical terms, this means:

a) Techniques that respect human dignity and minimise direct physical contact
   (ethnic and anthropological aspects)

b) Considering the human biological aging process when designing identification technologies. The visual representation of the biometric characteristics of the head (the photograph) plays a particularly important role in how information technology analyses the aging process

c) Implementing quicker, more efficient methods for identifying persons in the Border First Lane

d) Verifying biometric data (fingerprints) for suspicious cases in a Border Second Lane

3.1 Known risks of using biometrics in the border control process

The primary risk of employing biometrics-based control processes is the potential manipulation of biometric data. For this reason, all biometric data (not just fingerprints) must be collected in a controlled environment and readouts must be secured against inappropriate use.

Risks can arise from:

- Poor or inadequate training of personnel who capture data and agents who perform checks
- Falsification of identity while biometric features are being submitted or captured
- Incorrect operation during the capture process

3.2 Opportunities for biometrics in the border control process

An integrated approach is required to optimise the highly complex border control process. There is a need for alignment of the security needs of the individual nations and the guarantees that have been made to contracting states with the desire of travellers for quick passage across borders and the states’ need for economy.

A combined approach of changing control processes and using biometric techniques appears to be a suitable way to reconcile the issues of security and efficiency during border checks.
4 Summary

Collaboration with research institutes has led to impressive security technology innovations in Europe. Close cooperation between research institutes and end users will make it possible to tap the full potential of innovations in biometrics.

The Council of the European Union stressed the central importance of integrated border management in December 2006. Cooperation with European research institutes (such as the 3D Face project) has revealed promising ways to successfully develop useful, integrated applications for European police forces while keeping commercial interests at a distance.

The German Federal Police remains committed to its role as a reliable security partner that can quickly respond to emerging challenges in border security.

The construction of the new airport for the German capital, Berlin Brandenburg International (BBI), presents a special challenge for German technology firms, which will be called upon to devise improved procedures and technologies for the border control process.

*Legend:
NON-EU http://en.wikipedia.org/wiki/Schengen_Agreement
DG JLS http://ec.europa.eu/dgs/justice_home/index_de.htm
Frontex http://europa.eu/agencies/community_agencies/frontex/index_de.htm
Inpol http://de.wikipedia.org/wiki/INPOL-neu