

# Study Group – 2003 ICA Biometrics in Governments- present and future

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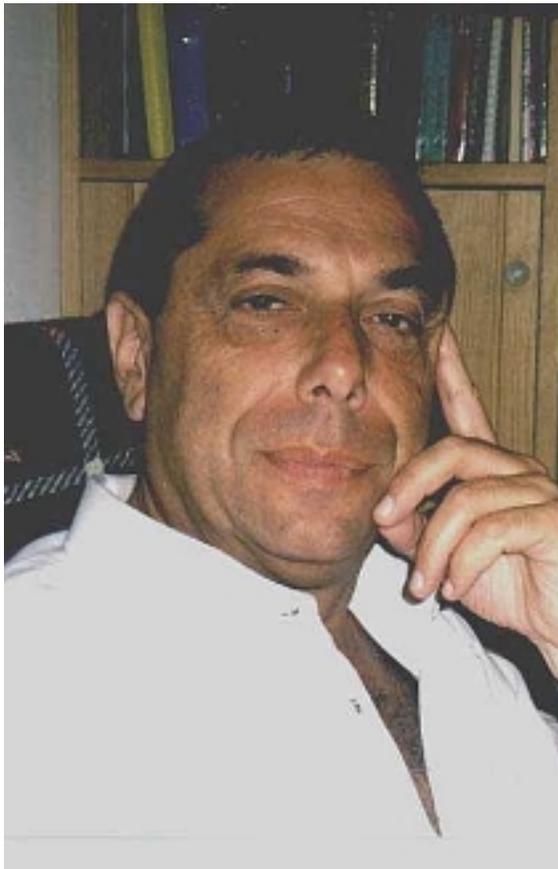
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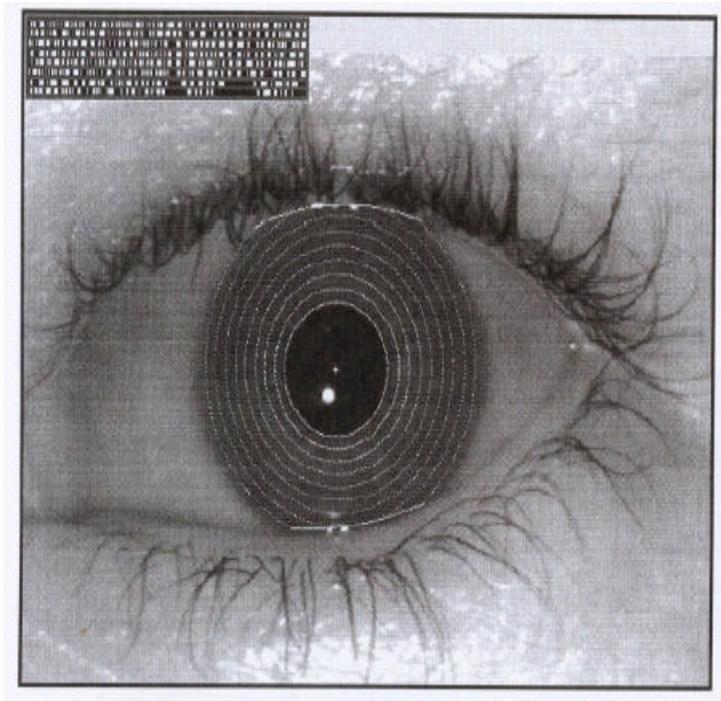
Prime Minister's  
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Israel

Chair of the IT  
Security Council



# Biometric in Governments- present and future



**This report presents the results of a survey conducted among the national representatives in ICA regarding the use of biometrics technology in governments during May-June 2003. In all, the National Representative of the European Union as well as national representatives of 23 countries were approached and 10 of them responded either in full or partially.**

# **Only Singapore is fully comfortable with the use of the technology**

**It transpired that only Singapore is fully comfortable with the use of the technology. Singapore uses fingerprint biometrics for immigration pass travelers and foot traveler clearance and Iris recognition for motorcyclist clearance. The applications Singapore has either selected or is considering are in the field of national IDs, immigration (Border control) and law enforcement. The remaining respondents are either extensively on the subject and can, therefore, explain it to others or, as in the case of the national representative of Hungary, actually received technical training. Satisfaction with biometrics varies. Hungary and Singapore are pleased with it, while Estonia is not and Austria, Finland, UK and .USA are neither pleased nor displeased**

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# **All respondents replied that their governments are planning to implement biometrics**

- **All respondents replied that their governments are either planning to implement biometrics technology in the future or, as in the case of EU, Hungary, Malta, Singapore, UK and USA, intend to expand already existent usage. The most commonly used biometrics technology named by the respondents were fingerprint (used by the European Union and in Hungary, Malta, Singapore and UK), palm print (Malta), face recognition (UK), hand geometry (USA) and Iris scan (Singapore). Among the foremost concerns of all respondents was privacy/data protection in the use of biometrics followed by ease of use and accuracy/performance.**

# *What can we now reliably depend upon from each of the available biometrics technologies?*

- **The question was answered as follows:**
- **Austria: so far a dependable biometrics is the fingerprint; many problems have to be solved prior to the employment of a secure Iris scan or a secure transmission system;**
- **Hungary: short term identification and high security applications;**
- **Singapore felt that the best system would be a multi-modal one since it heightens security. However, it may be more difficult to use since two steps are required, unless one of them is the face recognition system whereby no contact is necessary and only one process is needed;**
- **UK felt that as of this moment, it could not much depend on any of the available technology systems;**
- **USA: some level of authentication**

# The end users and the organizations preferences

- While from the organization's point of view Retina, Iris scan, fingerprint and hand geometry seem to be the most reliable products, the survey revealed that end-users prefer mostly fingerprint, Iris scan, face- or voice recognition as well as signature. When questioned as to which of the biometrics technology is the preferred one the national representatives answer has been as follows: Austria, Hungary, Singapore prefer fingerprint as does Norway, possibly in connection with other biometrics. Estonia prefers Iris recognition, Malta hand geometry, the UK face recognition and the USA's preferred biometrics is signature. However, when questioned as to which of the biometrics technology would make them feel insecure, the national representatives responded as follows: Austria (Iris scan), Finland (voice recognition), Malta (face recognition), Singapore (face- & voice recognition, hand geometry, signature), USA (voice recognition) and Hungary thought it depended on the objective and circumstances of application.

# The question of saving and convenience factors

- The question of saving and convenience factors regarding the available biometrics technology was answered as follows:
- Austria: first priority should be simplicity of use
- Finland: in internal use there is no need to remember passwords and in external use the technology provides travel security;
- Norway: in the area of border crossings the technology provides means of detecting false travel documents and detects illegal crossing through routine which appears to the public as being user-friendly and does not disturb travelers;
- Singapore: a) manpower saving, in that there would be no need to deploy security officers to check and verify (automated immigration clearance) and b) everyone can use the system themselves (self-service). For example, the staff could return to the office without the need of a physical key or a punch card.
- UK: not much
- USA thought that time and more accurate record-keeping along

# *What is presently not accomplished but on the horizon for available biometrics?*

The question was answered as follows:

**Austria**: fingerprint;

**Finland**: common standards, reliable equipment and the integration of systems;

**Hungary**: embedded systems, combined functions and/or technologies;

**Norway**: for authenticating an ID, provision of access to sensitive areas and systems;

**Singapore**: ear shape, odor (i.e. human scent), vein-scan in the back of the hand or beneath the palm, nail-bed identification, (i.e. ridges in fingernail) and gait recognition (i.e. manner of walking);

**USA**: integration to e-authentication technologies, such as digital signatures, PKI, etc.

# **The use of biometrics is already a major influence**

In an organization like the European Union as well as in Singapore the use of biometrics is already a major influence in their administrations.

Finland plans to use the technology for passports in 2004 and within organizations in 2005

Malta, Norway and USA plan to use it for passports in 2005. Just as in Finland, Malta Norway and the USA, biometrics will also become a major influence in Austria in 2008 and in Hungary in 2010.

# Future biometrics technologies

**The suggestions for future biometrics technologies were:**

**Estonia: Iris- & voice recognition;**

**Hungary: avoidance of direct biometrics data storage and the usage of one-way identification combined with hashing;**

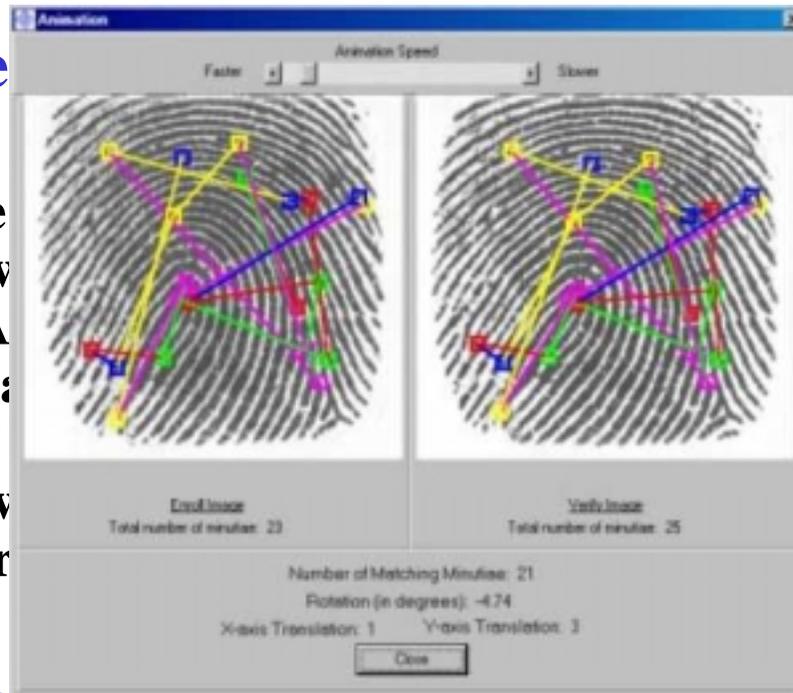
**Malta: since all so-called natural avenues have now been explored, a really radical innovation in biometrics would require a paradigm shift in approach – for example: use of more than one of the existing approaches in combination with possible linkage to, or creation of “artificial” biometrics by embedding a token in body tissue that would provide positive identification data on an individual. This data would be decrypted only when the individual provides a memorized decryption key**

**Singapore: either Iris technology or a multi-modal of biometrics, i.e. a system that uses a combination of two biometrics, such as fingerprint and face recognition, Iris and fingerprint, left and right fingers etc.**

# Summary

There is evidence that is increasing somewhat.

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Overall, the respondents felt that increases in correct identification of people, with the appropriate safeguards in place, justify the adoption of biometric identification programs.