



# Biometrics

Standards for recording finger, face and iris information  
for use in identity management systems

Four new standards for:

- UK passports and UK ID cards\*
- Access management systems
- Forensic identification
- Identity product/service vendors
- Identity document issuing authorities

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# NEW Biometric standards for recording fingerprint information for use in identity management

Four new international standards on biometrics covering data structures to digitally record **finger, face and iris images and fingerprint features** have just been published. Some of these standards will be used for the recording of biometric data on UK Passports and on UK ID Cards\*.

The BS ISO/IEC 19794 standards are applicable to all identity management systems including:

- Identity document delivery and access management systems – such as border controls, corporate identity and access cards
- Prison access/egress
- Forensic identification – to identify casualties or suspects at the scene of a crime
- Citizens' rights – including voting, national health, unemployment benefits, driving licences
- Privileges associated with a particular employment category – including access to highly secure areas such as ports, airports, military establishments, company buildings, information systems
- Access to services – including banking services, financial services, and online purchases.

BS ISO/IEC 19794 will be used in access control and identification systems such as those based on smart cards or other recognition tools, and also applies to the storage of biometric identification data in corporate databases.

## Reinforce Security and Prevent Fraud

These standards are essential for those concerned with government contracts and procurement or with the enhancement of IT security through the identification of personnel and/or physical access control. They will be of interest to any organization wishing to reinforce security and prevent fraud by implementing strong identity management and access management.

The standards are therefore essential to the following professional activities:

- Identity product/service vendors
- Identity document issuing authorities
- Home Office planners (for police and prison services activities)
- Legislators
- Systems integrators
- Auditors

## Specified by Governments

A number of Governments (including the UK, other European countries, and Israel) have specified that the use of biometrics by government departments shall conform to these international biometrics standards covering biometric data block formats, and have recommended that private organizations avoid vendor-specific solutions for the storage of such data.

Use of the standards will enable equipment from one vendor to produce a biometric data block in a format (whether it's finger minutiae, finger, face or iris image) that can be compared directly with the relevant biometric data block format produced by equipment from a different vendor, without the need for any collaboration between the two vendors (interoperability).

These four standards are the first, and probably the most important, of the biometric data block standards to be produced.

*\*If the Government's proposal is passed into law*

## **BS ISO/IEC 19794-2:2005** Information technology. Biometric data interchange formats. Finger minutiae data



This standard defines a biometric data block format that contains a digital record of the features that can be identified and extracted from a digitised fingerprint.

It specifies how the minutiae are to be identified, and their relative positions recorded, but most importantly the data structure (the biometric data block format) to be used to record this information. This international standard has two main formats. The first provides rapid and easy matching, the second is a more compressed format that is more suitable where the biometric data block is stored on a smart card.

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## **BS ISO/IEC 19794-4:2005** Information technology. Biometric data interchange formats. Finger image data



This standard defines a biometric data block format that contains a digital record of the image of one or more fingers (or of a palm).

It specifies how the image is to be acquired, and how it is to be converted to a digital representation, with a full specification of the digital format.

**ISBN** 0 580 46455 5  
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## **BS ISO/IEC 19794-5:2005** Information technology. Biometric data interchange formats. Face image data



This standard defines a biometric data block format that contains a digital record of the image of a face.

It specifies how the image is to be acquired (including lighting, pose of the subject - expression, head-dress, etc), and how it is to be converted to a digital representation, with a full specification of the digital format.

**ISBN** 0 580 46409 1  
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## **BS ISO/IEC 19794-6:2005** Information technology. Biometric data interchange formats. Iris image data



This standard defines a biometric data block format that contains a digital record of the image of an iris.

It specifies how the image is to be acquired, and how it is to be converted to a digital representation, with a full specification of the digital format.

Two formats are defined. The first can be produced by minimal processing of the image. The second is more compact, but requires more processing of the image.

**ISBN** 0 580 46456 3  
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*NOTE – Interoperability amongst different vendors of biometric products and services cannot be assured by a simple statement of compliance with standards. This should be done by sufficient testing or reference to laboratory certification of the vendors implementations.*

## **Data Protection Guide**



If you are handling, processing or accessing biometric information you will be subject to the Data Protection Act 1998 (DPA). Written in association with the Office of the Information Commissioner, BSI publishes a comprehensive and practical subscription guide covering all aspects of the DPA, together with your legal requirements. Full details can be found at [bsi-global.com/dataprotection](http://bsi-global.com/dataprotection).

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