



BSI Standards Publication

## Full body photography

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## National foreword

This Published Document is the UK implementation of CEN/TS 17051:2017.

The UK participation in its preparation was entrusted to Technical Committee IST/44, Biometrics.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Published by BSI Standards Limited 2017

ISBN 978 0 580 95129 9

ICS 35.240.15

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 June 2017.

### Amendments/corrigenda issued since publication

Date	Text affected
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TECHNICAL SPECIFICATION  
SPÉCIFICATION TECHNIQUE  
TECHNISCHE SPEZIFIKATION

**CEN/TS 17051**

May 2017

ICS 35.240.15

English Version

**Full body photography**

Photographie du corps entier

Ganzkörperfotografie

This Technical Specification (CEN/TS) was approved by CEN on 6 February 2017 for provisional application.

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## European foreword

This document (CEN/TS 17051:2017) has been prepared by Technical Committee CEN/TC 224 "Personal identification, electronic signature and cards and their related systems and operations", the secretariat of which is held by AFNOR.

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## Introduction

Most countries around the world are provided with identification systems for law enforcement and border control. Many of these systems are not limited to face recognition purposes. To be consistent in such deployments and processes, technical documents, guidelines and best practice recommendations are being developed by different groups. However, these documents are primarily focused on travel document systems and the technical and operational issues to be considered when planning and deploying such systems in Europe. Full body recognition is the biometric mode used as a secondary mode in addition to face recognition or for forensic purposes. Face recognition is the biometric mode suited to the practicalities of travel documents.

There is little guidance covering the full body imaging for cross-border interoperability or law enforcement services. There is a need for guidance for the use of high quality digital camera and video surveillance devices for full body photography. This Technical Specification is not restricted to body image data. For example, it may be possible to extract iris images in some scenarios where high resolution cameras are used or body silhouette data for gait recognition when low resolution cameras are in use.

## 1 Scope

This Technical Specification is intended to provide a Full Body Image Format for pattern recognition services and applications requiring the exchange of full body image data. Its typical applications include:

- a) human examination of high resolution full body images;
- b) human verification of identity based on full body images;
- c) computer automated full body identification;
- d) computer automated full body verification.

To enable applications on a wide variety of devices, including devices that have limited data storage, and to improve image recognition accuracy, ISO/IEC 19794 standards are followed regarding not only data format, but also scene constraints (lighting, pose, expression, etc.), photographic properties (positioning, camera focus, etc.), and digital image attributes (image resolution, image size, etc.).

A specific biometric profile for cross-border interoperability is required for full body photographs. Full body photography standardization is required to get good quality database images for identification and verification using video surveillance and other similar system generated images. At the moment, border guards take full body photographs using local practices for enrolment, verification, identification and watch list identification.

ISO 22311:2012 [10] specifies a common output file format that can be extracted from the video-surveillance contents collection systems to perform necessary processing. ISO/IEC 30137 [8] specifies data formats for storing, recording and transmitting biometric information acquired via a video surveillance system. The EN 62676 series [11] defines video surveillance systems for use in security applications.

The purpose of this Technical Specification is to provide expert guidance (i.e. best practices) for the photography of full body, especially when the resulting images are to be used for purposes of identification and verification, either by automated recognition systems or by human viewers.

## 2 Normative reference

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 61966-8, *Multimedia systems and equipment - Colour measurement and management - Part 8: Multimedia colour science*

ISO 12233, *Photography — Electronic still picture imaging — Resolution and spatial frequency responses*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1 Biometric verification

process of confirming a biometric claim through biometric comparison

[SOURCE: ISO/IEC 2382-37]