



# Technical Specification

**ISO/IEC TS 29196**

## Information technology — Guidance for biometric enrolment

*Technologies de l'information — Directives pour l'inscription  
biométrique*

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## Contents

Page

<b>Foreword</b>	<b>iv</b>
<b>Introduction</b>	<b>v</b>
<b>1 Scope</b>	<b>1</b>
<b>2 Normative references</b>	<b>1</b>
<b>3 Terms and definitions</b>	<b>1</b>
<b>4 Abbreviated terms</b>	<b>3</b>
<b>5 Role of biometric capture processing in a biometric system</b>	<b>3</b>
<b>6 Stakeholders and approaches for enrolment</b>	<b>6</b>
6.1 Enrolment stakeholders	6
6.2 Enrolment approaches	8
<b>7 Stakeholder interests</b>	<b>8</b>
7.1 Key observations	8
7.2 Best practices and recommendations	10
7.2.1 General	10
7.2.2 Subject interests	10
7.2.3 Enrolment authority interests	13
7.2.4 Operator interests	21
7.2.5 Relying party interests	26
7.2.6 Designer and developer interests	27
7.2.7 Regulator interests	33
7.2.8 Auditor interests	34
<b>8 Biometric enrolment capability development</b>	<b>34</b>
8.1 General	34
8.2 Enrolment station architecture and design	34
8.3 System definition	35
<b>9 Modality specific guidance</b>	<b>35</b>
9.1 General	35
9.2 Facial biometric systems	36
9.2.1 General	36
9.2.2 Environment	36
9.2.3 Pose and position	36
9.2.4 Ethnicity	37
9.2.5 Improvements	37
9.2.6 Glasses	38
9.3 Fingerprint biometric systems	38
9.3.1 General	38
9.3.2 Fingerprint capture considerations	39
9.3.3 Single finger systems	39
9.3.4 Tenprint systems	40
9.4 Vascular (vein) authentication systems	40
9.4.1 General	40
9.4.2 Palm vein technology	40
9.4.3 Finger vein technology	41
9.5 Iris biometric systems	41
<b>10 Mobile applications</b>	<b>43</b>
10.1 Best practice guidelines	43
10.2 Fingerprint systems	44
10.3 Facial image systems	45
10.4 Iris systems	46
<b>Bibliography</b>	<b>47</b>

## Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives) or [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs)).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html). In the IEC, see [www.iec.ch/understanding-standards](http://www.iec.ch/understanding-standards).

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 37, *Biometrics*.

This first edition of ISO/IEC 29196 cancels and replaces ISO/IEC TR 29196:2018, which has been technically revised.

The main changes are as follows:

- recommendations added throughout the document;
- [Clause 3](#), some terms and references modified;
- information about enrolment updated to state of art;
- Annex A removed.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html) and [www.iec.ch/national-committees](http://www.iec.ch/national-committees).

## Introduction

One of the most important contributions to a successful biometric recognition system is a consistent biometric enrolment service ("biometric capture process") that stores biometric data captured from individuals for biometric comparison purposes. Biometric data captured for subsequent verifications or identifications are compared with the biometric data collected at enrolment time. If the quality of the biometric samples captured for enrolment is not consistently maintained, the performance of the biometric recognition system is likely to be unreliable. For those who are enrolled in a verification system, a poor quality enrolment is an inconvenience if they are not recognized.

NOTE Quality has a specific meaning when applied to biometric systems, see ISO/IEC 29794-1: a high quality capture is one that results in biometric data that provides good comparison scores when compared with other high quality images from the same biometric feature.

Principles based on stakeholder requirements can guide the development of system policy to ensure that the quality of biometrics samples captured for enrolment are fit for purpose. Where biometric capture processing is outsourced to a third party, a shared understanding of quality is an extremely important basis for ensuring the relying party and the enrolment authority are aligned on what constitutes a biometric sample of acceptable quality.

Although the recommendations in this document are directed primarily to the parties responsible for the biometric capture process itself and for management of the enrolment service (noting that these two entities can be one and the same), they are also of value to the designers and developers of enrolment systems.

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# Information technology — Guidance for biometric enrolment

## 1 Scope

This document gives guidance relating to successful, secure and usable implementation of biometric enrolment processes, while indicating risk factors that organizations which use biometric technologies can address during procurement, design, deployment and operation. Much of this document is generic to many types of applications, e.g. from national scale commercial and government applications, to closed systems for in-house operations, and to consumer applications. However, the intended application and its purpose often have influence on the necessary enrolment data quality and are taken into account when specifying an enrolment system and process.

This document specifies the differences in operation relating to specific types of application, e.g. where self-enrolment is more appropriate than attended enrolment. This document focuses on mandatory, attended enrolment at fixed locations. It ultimately consolidates information relating to better practices for the implementation of biometric enrolment capability in various business contexts including considerations of process, function (system), and technology, as well as legal/privacy and policy aspects.

This document provides guidance on collection and storage of biometric enrolment data and the impact on dependent processes of verification and identification. This document does not include material specific to forensic and law enforcement applications.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 2382-37, *Information technology — Vocabulary — Part 37: Biometrics*

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## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 2382-37 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

### 3.1

#### **biometric capture service**

process of capturing biometric data and submitting it to a back-end solution for either processing or biometric enrolment, or both

Note 1 to entry: Enrolment may happen directly or as a subsequent process of the backend solution.

### 3.2

#### **biometric subject**

individual seeking to be, or is enrolled in, a biometric enrolment database