

ISO/IEC 30137-1:2024-03 (E)

Information technology - Use of biometrics in video surveillance systems - Part 1: System design and specification

Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	2
3 Terms and definitions	2
3.1 Terms related to the target subject.....	2
3.2 Terms related to VSS.....	2
3.3 Terms related to biometric systems.....	4
3.4 Terms related to the environment and scenario.....	4
3.5 Symbols and abbreviated terms.....	5
4 Comparison of terms used in biometric systems with those used in video surveillance	5
5 Architecture	6
6 Use cases	7
6.1 General.....	7
6.2 Post-event use cases.....	8
6.3 Real-time use cases.....	8
6.4 Enrolment use cases.....	9
7 Specification of hardware and software	9
7.1 General.....	9
7.2 Physical environment.....	10
7.3 Illumination environment.....	10
7.4 Inducing frontal view	10
7.5 Cameras and supporting infrastructure.....	11
7.5.1 Selection of cameras.....	11
7.5.2 Positioning of cameras.....	12
7.5.3 Infrastructure considerations.....	16
7.6 Biometric software.....	17
7.6.1 General	17
7.6.2 Face detection software.....	17
7.6.3 Face comparison software.....	18
7.6.4 Algorithm selection and testing.....	18
7.6.5 Other (non-biometric) software	19
7.7 Computational requirements	19
7.7.1 General	19
7.7.2 Core biometric processes.....	19
7.7.3 Reducing computational expense	20
7.8 Specification for reference image database.....	21
7.8.1 General	21
7.8.2 Reference database size.....	21
7.8.3 Reference image quality	21
7.8.4 Reference database maintenance.....	22
8 Multiple camera operation	22
9 Interfaces to related software	23
10 Guidance for operator assistance	23
11 System design considerations	24

11.1	General.....	24
11.2	Establishing the business requirements.....	24
11.3	Site survey	24
11.4	Size and content of the watchlist.....	26
11.5	Performance requirements.....	26
11.5.1	General	26
11.5.2	Key metrics of performance.....	26
11.5.3	PAD performance metrics.....	27
11.6	Image data and metadata considerations	27
Annex A	(informative) Related (non-biometric) video analytic techniques and applications	28
Annex B	(informative) Societal considerations and governance processes	31
Annex C	(informative) Case study: The use of AFR with VSS for traveller triaging at the border	33
Annex D	(informative) Video acquisition measurements	35
Bibliography	45