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**Information technology — Biometric profiles for interoperability and data interchange —**

**Part 3:  
Biometrics-based verification and identification of seafarers**

*Technologies de l'information — Profils biométriques pour interopérabilité et échange de données —*

*Partie 3: Vérification basée sur la biométrie et identification des navigateurs*

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## 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. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 24713-3 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 37, *Biometrics*.

ISO/IEC 24713 consists of the following parts, under the general title *Information technology — Biometric profiles for interoperability and data interchange*:

- *Part 1: Overview of biometric systems and biometric profiles*
- *Part 2: Physical access control for employees at airports*
- *Part 3: Biometrics-based verification and identification of seafarers*

## Introduction

The International Labour Organization, in response to a request from the International Maritime Organization, has adopted the Seafarers' Identity Documents Convention (Revised), 2003 (No.185). This convention requires all seafarers from ratifying nations to be issued with an identity document that follows a uniform format, has specific physical security features, and uses biometrics to link the seafarer to their identity document. Currently Convention No. 185 specifies the use of two fingerprints stored in a two-dimensional bar code, but the choice of biometric modality and storage medium could be changed provided backwards compatibility is maintained.

In order to support a globally interoperable system of Seafarers' Identity Documents (SIDs), this part of ISO/IEC 24713 establishes a biometric profile to define how to use biometrics for verification and identification of seafarers at the various stages of document issuance and inspection. It defines a set of base standards and criteria for applying those standards in applications where identity documents are issued to seafarers and biometrics are used to link each document to the seafarer to whom it was issued. It attempts to provide information on the processes surrounding the enrolment and verification or identification of seafarers so that the biometric components of the system can be used in a proper context. It also addresses other system components such as the storage medium for the biometric data and the security of the system, since these will affect the use of the biometric technology. This part of ISO/IEC 24713 is intended for use in the maritime industry, but can be applicable to other situations where identification and verification of document holders are necessary during document issuance or inspection.

The use of biometric data includes identification checks during the issuance of the document, when watchlists can be checked and the entire database of existing seafarers can be searched to prevent a single seafarer from establishing multiple identities.

It also includes the use of biometric data for verification when a card is presented at a control point by a person claiming to be the seafarer to whom the card was issued. Such control points can include port entrances, ship gangplanks, border crossing points where a seafarer must verify themselves to immigration authorities and any other situation where the seafarer needs to verify their identity as a seafarer. This verification is expected to be performed not only indoors under controlled conditions, but also outdoors in difficult conditions, including harsh wet weather, salt spray, high humidity and high temperatures. Biometric equipment and credentials have to be capable of functioning in all such environments.

This part of ISO/IEC 24713 is not intended in any way to conflict with the existing international Convention No. 185 established by the International Labour Organization and ratified by various member states of the ILO. Instead, the approaches profiled in this part of ISO/IEC 24713 can be used to satisfy the requirements of the current version of Convention No. 185 while also allowing alternative approaches outlined in this part of ISO/IEC 24713 to be used in the future by the ILO if the technical documents associated with or annexes of Convention No. 185 are modified. To this end, the concept of backwards compatibility is stressed. The fundamental choices already made by the ILO of the use of a minutiae-based, two-finger template for seafarer verification, of the inclusion of a photograph and signature in the visible area of the SID, and of the use of a two-dimensional barcode as a storage medium are respected in this profile. Where alternative technology choices are promoted, they are defined in such a way that there will still be backwards compatibility with existing SIDs.

This part of ISO/IEC 24713 defines a CBEFF patron format in Annex B and a CBEFF Security Block in Annex C that are suitable for the limited storage available in a two dimensional barcode and which may be relevant for other storage constrained environments.

# Information technology — Biometric profiles for interoperability and data interchange —

## Part 3: Biometrics-based verification and identification of seafarers

### 1 Scope

This part of ISO/IEC 24713 specifies a biometric profile including data interchange formats, system requirements, and the operation of biometric procedures on a Seafarers' Identity Document (SID).

The domain of applicability can extend to other situations where an interoperable biometrics-based identity document is required, but the main focus is on the use of biometrics on a Seafarers' Identity Document (SID).

This part of ISO/IEC 24713 notes that ILO Convention No. 185 already provides the overarching policy guidance on biometric verification and identification of seafarers and it relies on that guidance. Determining any matters of policy beyond those or in contradiction to those included in ILO Convention No. 185 is explicitly out of scope of this part of ISO/IEC 24713.

### 2 Conformance

All seafarers' identity documents, systems used for issuing seafarers' identity documents, and systems used for verification or identification of seafarers that claim conformance to this part of ISO/IEC 24713 shall conform to the mandatory requirements of Clause 6 of this part of ISO/IEC 24713 and of the normative Annexes referenced therein.

### 3 Normative references

The following referenced documents are indispensable for the application 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 7501-1, *Identification cards — Machine readable travel documents — Part 1: Machine readable passport*

ISO/IEC 7501-3, *Identification cards — Machine readable travel documents — Part 3: Machine readable official travel documents*

ISO/IEC 8824-1:2002, *Information technology — Abstract Syntax Notation One (ASN.1): Specification of basic notation*

ISO/IEC 8825-1:2002, *Information technology — ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)*

ISO/IEC 8825-2:2002, *Information technology — ASN.1 encoding rules: Specification of Packed Encoding Rules (PER)*

## ISO/IEC 24713-3:2009(E)

ISO/IEC 15438:2006, *Information technology — Automatic identification and data capture techniques — PDF417 bar code symbology specification*

ISO/IEC 19785-1:2006, *Information technology — Common Biometric Exchange Formats Framework — Part 1: Data element specification*

ISO/IEC 19785-3:2007, *Information technology — Common Biometric Exchange Formats Framework — Part 3: Patron format specifications*

ISO/IEC 19794-2:2005, *Information technology — Biometric data interchange formats — Part 2: Finger minutiae data*

ISO/IEC 19794-4:2005, *Information technology — Biometric data interchange formats — Part 4: Finger image data*

ISO/IEC 19794-5:2005, *Information technology — Biometric data interchange formats — Part 5: Face image data*

ISO/IEC 19795-4:2008, *Information technology — Biometric performance testing and reporting — Part 4: Interoperability performance testing*

ISO/IEC 24713-1:2008, *Information technology — Biometric profiles for interoperability and data interchange — Part 1: Overview of biometric systems and biometric profiles*

ISO/IEC 29109-1, *Information technology — Conformance testing methodology for biometric data interchange formats defined in ISO/IEC 19794 — Part 1: Generalized conformance testing methodology*