



BSI Standards Publication

# Personal identification — Secure and interoperable European Breeder Documents

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Part 1: Framework overview

## National foreword

This Published Document is the UK implementation of CEN/TS 17489-1:2020.

The UK participation in its preparation was entrusted to Technical Committee IST/17, Cards and security devices for personal identification.

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

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English Version

**Personal identification - Secure and interoperable  
European Breeder Documents - Part 1:  
Framework overview**

Identification personnelle - Documents  
sources Européens sécurisés et interoperables  
- Partie 1 : Structure générale

Personenidentifikation - Sichere und  
interoperable europäische Ausgangsdokumente  
- Teil 1: Grundstruktur

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European foreword

This document (CEN/TS 17489-1:2020) has been prepared by Technical Committee CEN/TC 224 “Personal identification and related personal devices with secure element, systems, operations and privacy in a multi sectorial environment”, the secretariat of which is held by AFNOR.

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

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## Introduction

A legally recognized identity enables citizens to exercise their rights and access state and other services. This includes the right to travel and access to travel documents such as passports, as well as access to education, healthcare, social services, and bank accounts. In order to establish legally recognized identities of citizens, states implement identity management (IdM) systems.

Breeder documents are legal documents which certify a vital event of a person and are essential components of these IdM systems. According to the United Nations terminology [10] vital events include live birth, death, foetal death, marriage (which includes partnership), divorce, adoption, legitimation, recognition of parenthood, annulment of marriage, or legal separation. These vital events of a person are recorded in the civil register (if used) of the state, during a process which is called registration, and a corresponding breeder document is issued to the citizen.

The Organization for Security and Co-operation in Europe (OSCE) points out the importance of a breeder document (denoted as primary documents) framework [8]:

*“While there are several layers of identity management that produce different types of identity documents, frameworks for issuing primary identity documents are the critical components of the entire identity management system. They provide a framework for the legal establishment of one’s identity and identity documents on the basis of which other types of identity documents may be issued.”*

While there are standardized frameworks for identity documents such as travel documents including passports, a standardized framework for secure and interoperable breeder documents is missing.

For machine readable travel documents (MRTDs) including passports, the International Civil Aviation Organization (ICAO) has published the Doc 9303 standard [4] which has been prepared in collaboration with the standardization group ISO/IEC JTC 1/SC 17/WG3. The international adoption and implementation of this document establishes a certain security level for travel documents and enables interoperability, e.g. by means of the standardized layout and character set used for travel documents.

The lack of breeder document standardization leads to interoperability as well as security issues. The layout of breeder documents differs between states and often even between the municipalities of a state. Breeder documents typically do not support machine readable technologies, and therefore their data must be manually entered for subsequent processing which is error prone and time consuming. The non-standardized layout can hinder a verifier to identify the required breeder document data and a translation of the breeder document is potentially required. This translation potentially uses a transliteration of names, i.e. a conversion of the names from one alphabet to another, and this can lead to different spellings of the name of the same person, e.g. if diacritical marks are used in the original breeder document, but not used in the translated document.

For instance, the International Commission on Civil Status (ICCS) [6] has addressed these interoperability issues in several conventions and recommendations that specify a data set and a character set to be used as well as identifiers for the different data fields of a breeder document.

Breeder documents are typically used as an identity evidence in identity proofing scenarios for issuing travel documents. Due to the established security level of travel documents and the typically lower security level of breeder documents fraudsters aim at obtaining authentic travel documents on the basis of false identities based e.g. on non-genuine or forged breeder documents instead of forging or counterfeiting travel documents. Therefore fraudsters use

- counterfeit breeder documents, i.e. unauthorized reproductions of genuine documents;
- forged breeder documents, i.e. genuine breeder document that have been altered;
- genuine breeder documents of another person; i.e. they impersonate the legitimate holder of the breeder documents. As breeder documents such as birth certificates usually do not include information that links the breeder document to its legitimate holder, strong organisational methods are required to establish this link, in particular in the case of first-time registration;

- forged data and identity evidence documents to obtain breeder documents with false data representations.

Breeder documents are considered the weakest link in the issuance process of travel documents, see the ICAO guidelines [5] for best practices on how breeder documents are used in this process. For this reason the European Union (EU) has funded projects to investigate solutions for strengthening the security of breeder documents: The FIDELITY project [3] suggests among others a standardized birth certificate design, the support of physical security features and an online verification of the birth certificate. The ORIGINS project [9] analysed the issuance of breeder documents used for passport delivery, identified loopholes in this process, and proposed security measures and processes to enhance the security of breeder documents. These enhancements include the standardization of breeder documents and the harmonization of the related processes. In addition, the European Commission has issued an action plan to strengthen the European response to travel document fraud [2] which recommends a minimum security level for breeder documents to prevent counterfeiting and forging.

The breeder document framework in CEN/TS 17489 (all parts) takes the results of these EU projects [3], [9] into considerations as well as the ICCS conventions and recommendations [6].

## 1 Scope

This document provides an overview of a framework on breeder documents. It introduces the document structure of CEN/TS 17489 (all parts) that specifies how citizens retain the control of breeder document data and how they can use them to support identity proofing and verification. Moreover, the framework provides methodologies to assess and increase the level of trust in breeder documents.

This framework specifies methods for:

- defining physical and logical/digital representations of a secure breeder document (hardware based, paper-based, server-based),
- securing breeder document processes,
- linking the document to its legitimate holder.

The following types of breeder documents are in the scope of the framework:

- birth certificates,
- marriage and partnership certificates,
- death certificates.

The following breeder documents management processes including first-time application, later-in-life registration of an identity, and content update (e.g. name-changing) are in the scope of this framework:

- registration,
- issuance,
- renewal,
- inspection/verification,
- revocation.

The specification of policies is out of scope.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

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

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

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

### 3.1 attribute

characteristic or property of an *entity* (3.6)

[SOURCE: ISO/IEC 24760-1:2019, 3.1.3]

### 3.2 breeder document

*evidence* (3.7) about a *vital event* (3.19) of an *entity* (3.6) including *attributes* (3.1)