

STN P	Bezpečné a interoperabilné matričné dokumenty Časť 2: Dátový model	STN P CEN/TS 17489-2 36 9757
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Secure and interoperable European Breeder Documents — Part 2: Data model

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 04/25

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English Version

Secure and interoperable European Breeder Documents - Part 2: Data model

Documents sources européens sécurisés et
interopérables - Partie 2 : Modèle de données

Persönliche Identifikation - Sichere und interoperable
Europäische Ausgangsdokumente - Teil 2: Datenmodell

This Technical Specification (CEN/TS) was approved by CEN on 17 December 2023 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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European foreword

This document (CEN/TS 17489-2:2024) 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 [8] 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 [6]:

“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 [3] which has been prepared in collaboration with the standardization group ISO/IEC JTC 1/SC 17/WG3. The international adoption and implementation of this standard 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 has to 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) [5] 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 [4] 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 [2] 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 [7] 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 [1] 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 [2], [7] into considerations as well as the ICCS conventions and recommendations [5].

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1 Scope

This document specifies the abstract data model for breeder document data. The specific encodings of this abstract data model used in the breeder documents framework will be specified in a future edition of this document.

The abstract data model is a semantic description of the birth, marriage / partnership, and death certificate data, independently from their specific encoding. This abstract data model is extensible for further standardized and national data of birth, marriage / partnership, and death certificates as well as for other types of breeder documents.

This abstract data model is technology agnostic, i.e. it is applicable for paper-based, server-based, and hardware-based breeder documents as well as further breeder document designs and technologies.

The specific encodings of this abstract data model comprise the encodings to be used for the machine readable technologies specified in CEN/TS 17489-3 as well as the encoding of human readable breeder document data. These encodings are used in the birth, marriage / partnership, and death certificate profiles specified in CEN/TS 17489-4.

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.

DIN 91379:2022, *Zeichen und definierte Zeichensequenzen in Unicode für die elektronische Verarbeitung von Namen und den Datenaustausch in Europa, mit CD-ROM, Characters and defined character sequences in Unicode for the electronic processing of names and data exchange in Europe, with CD-ROM, August 2022*

CEN/TS 17489-1, *Personal identification - Secure and interoperable European Breeder Documents - Part 1: Framework overview*

ISO 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country code*

ISO 8601-1, *Date and time — Representations for information interchange — Part 1: Basic rules*

ISO 8601-2, *Date and time — Representations for information interchange — Part 2: Extensions*

ISO/IEC 5218, *Information technology — Codes for the representation of human sexes*

ISO/IEC 7064:2003, *Information technology — Security techniques — Check character systems*

ISO/IEC 10646, *Information technology — Universal coded character set (UCS)*

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