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# CEN ISO/TS 17573

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English version

# Road Transport and Traffic Telematics – Electronic Fee Collection (EFC) – System architecture for vehicle related transport services (ISO/TS 17573:2003)

Télématique de la circulation et du transport routier (RTTT) – Perception du télépéage – Architecture des systèmes pour les services embarqués sur véhicules (ISO/TS 17573:2003)

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## Foreword

This document (CEN ISO/TS 17573:2003) has been prepared by Technical Committee CEN/TC 278, "Road Transport and Traffic Telematics" the secretariat of which is held by NEN in collaboration with Technical Committee ISO/TC 204, “Transport information and control systems”.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovak Republic, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

There are several standards covering the sector of Electronic Fee Collection (EFC) within Road Transport and Traffic Telematics (RTTT). Most of the standards are related to the different interfaces that are found in EFC systems, but with few or no references to other EFC standards. Due to this a need has arisen for an 'umbrella' or Architecture standard for EFC.

The objective of this standard is to define a reference system architecture for EFC used for vehicle related transport services. The standard provides a framework of conditions for EFC that should be considered during the specification and implementation. The given information is technology independent as far as possible to enable various forms of EFC systems. Specific details with regard to e.g. payment means, communication medium and design of equipment are intentionally kept out of the scope.

The standard provides details with regard to following aspects:

— Terminology, definitions;

— List of relevant standards, regulations and other relevant documents;

— Architecture model for EFC with regard to all relevant parties and facilities (entities);

— Identification of interfaces, including references to relevant (Pre-)standards / Technical Specifications;

EFC encompasses all systems designed to collect fees from users in a non-manual way for vehicle related transport services. Generally EFC is characterised by the use of electronic means of payment, by absence of any action from the user at the moment that payment or transaction is made and that payment or transaction for the transport service may be collected whether or not the vehicle is moving or stationary. EFC does not exclude manual payment, conventional money transaction, nor does it include payment by means of sticker, vignettes, tickets, or magnetic stripe cards etc.

The applications to which EFC is related are Toll Collection, Road Pricing, Parking and Individual Traveller and Traffic Information. EFC systems for public passenger transport or comparable applications that do not require vehicle related EFC equipment are excluded.

**Vision**

To provide enabling standards for the collection of fees from road users by automatic means, primarily by use of an air interface.

**Mission**

It is the mission of this standard to describe the overall system architecture for Electronic Fee Collection with the Road Transport and Traffic Telematics.

# 1 Scope

This Technical Specification specifies a system architecture for electronic fee collection (EFC) systems concerning vehicle related transport services such as the use of toll roads, zone access, parking and route guidance.

This Technical Specification does not cover person related transport services such as public transport. However, some of the clauses in this standard may also be applicable for fare collection.

NOTE Fare collection architecture in public transport is covered by other Working Groups in CEN/TC278 and ISO/TC204, e.g. WG3 Public Transport in CEN/TC278.

This Technical Specification provides the overview of, and inter-relationship among, the set of standards for design, development, testing and operation of applications in the field of EFC.

This Technical Specification is also applicable to the ITS Fundamental Service called Electronic Financial Transactions which is the use of electronic, or 'cashless' payment systems for transportation. Hence, this standard covers toll collection systems, parking fee collection systems, systems for road and congestion pricing and integrated payment systems for transport services.

# 2 Normative references

This Technical Specification incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this Technical Specification only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

prCEN ISO/TS 17574 *Road Transport and Traffic Telematics (RTTT) - Electronic Fee Collection (EFC) System - – Security service Framework – Guidelines for EFC security protection profiles.*

ENV ISO 14904 *Road Transport and Traffic Telematics – Automatic fee collection (AFC) - - Interface specification for clearing between operators.*

ISO/IEC 11770-1 *Information technology - Security techniques - Key management - Part 1: Framework.*

# 3 Terms and definitions

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

**3.1**
**actor**
class external to the EFC system, e.g. the User and the Vehicle

**3.2**
**availability (1)**
definition related to Security: Data and information are available to authorised parties

**3.3**
**availability (2)**
definition related to operation of EFC systems: Dependability with respect to the readiness for usage. Measure of correct service delivery with respect to the alternation of correct and incorrect service

**3.4**
**central account**
account which is containing service rights and which is kept and administrated by the issuer of the payment means or by an entity acting on behalf of the issuer