



Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN ISO 24014-1:2007

Public transport - Interoperable fare management system - Part 1: Architecture (ISO 24014-1:2007)

Transport public - Système de gestion de
titres de transport interoperables - Partie
1 : Architecture (ISO/DIS 24014-1:2005)

Öffentlicher Verkehr - Interoperables
Fahrgeldmanagement System - Teil 1:
Architektur (ISO 24014-1:2007)

07/2007



National Foreword

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ILNAS-EN ISO 24014-1:2007

EUROPEAN STANDARD **EN ISO 24014-1**
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English Version

**Public transport - Interoperable fare management system - Part
1: Architecture (ISO 24014-1:2007)**

Transport public - Système de gestion tarifaire
interopérable - Partie 1: Architecture (ISO 24014-1:2007)

Öffentlicher Verkehr - Interoperables Fahrgeldmanagement
System - Teil 1: Architektur (ISO 24014-1:2007)

This European Standard was approved by CEN on 12 March 2007.

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Foreword

This document (EN ISO 24014-1:2007) 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".

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2008, and conflicting national standards shall be withdrawn at the latest by January 2008.

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Part 1: Architecture

*Transport public — Système de gestion tarifaire interoperable —
Partie 1: Architecture*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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

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ISO 24014-1 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 278, *Road transport and traffic telematics*, in collaboration with Technical Committee ISO/TC 204, *Intelligent transport systems*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

ISO 24014 consists of the following parts, under the general title *Public transport — Interoperable fare management system*:

— *Part 1: Architecture*

Introduction

Interoperable fare management (IFM) encompasses all systems and processes designed to manage the distribution and use of fare products in an interoperable public transport environment.

Such systems are called interoperable when they enable the customer to use a portable electronic medium (e.g. a contact/contactless smart card) with compatible equipment (e.g. at stops, with retail systems, at platform entry points or on board vehicles). IFM concepts can also be applied to fare management systems not using electronic media.

Potential benefits for the customer include reductions in queuing, special and combined fares, one Medium for multiple applications, loyalty programmes and seamless journeys.

Interoperability of fare management systems also provides benefits to operators and the other parties involved. However, it requires an overall system architecture that defines the system functionalities, the Actors involved and their roles, the relationships and the interfaces between them.

Interoperability requires also the definition of a security scheme to protect privacy, integrity and confidentiality between the Actors to ensure fair and secure data flow within the IFM system (IFMS).

The overall architecture is the subject of this part of ISO 24014, which recognizes the need for legal and commercial agreements between members of an IFM, but does not specify their form. The technical specifications of the Component parts, and particularly the standards for Customer Media (e.g. smart cards), are not included.

Note that there is not one single IFM. Individual operators, consortia of operators, public authorities and private companies can manage and/or participate in IFMs. An IFM can span country boundaries, and can be combined with other IFMs. Implementations of IFMSs require security and registration functionalities. This part of ISO 24014 allows for the distribution of these functions to enable the coordination/convergence of existing IFMSs to work together.

This part of ISO 24014 is intended to assist the managers of new and existing fare management systems to find a way conveniently to establish Interoperability for the benefit of their customers.

This part of ISO 24014 intends to provide three main benefits.

- a) It provides a framework for an interoperable fare management implementation with a minimum of complexity.
- b) It aims to shorten the time and lower the cost of IFM procurement, as both suppliers and purchasers understand what is being purchased. Procurement against an open standard reduces cost, as it avoids the need for expensive bespoke system development and provides for second sourcing.
- c) It aims to simplify Interoperability between IFMs to the benefit of all stakeholders.

The work has benefited from the architecture work done in Electronic Fee Collection (CEN/TC 278/WG 1) and other domains, including the following:

- ISO/TS 14904, *Road transport and traffic telematics — Electronic fee collection (EFC) — Interface specification for clearing between operators*;
- ISO/TS 17573, *Road Transport and Traffic Telematics — Electronic Fee Collection (EFC) — Systems architecture for vehicle related transport services*;
- existing international data security standards.