

**Automatic vehicle and equipment identification -  
Electronic Registration Identification (ERI) for vehicles -  
Part 1: Architecture**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 24534-1:2010 sisaldab Euroopa standardi EN ISO 24534-1:2010 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 30.09.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

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English Version

Automatic vehicle and equipment identification - Electronic  
Registration Identification (ERI) for vehicles - Part 1:  
Architecture (ISO 24534-1:2010)

Identification automatique des véhicules et des  
équipements - Identification d'enregistrement électronique  
(ERI) pour les véhicules - Partie 1: Architecture (ISO  
24534-1:2010)

This European Standard was approved by CEN on 16 June 2010.

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## Foreword

This document (EN ISO 24534-1:2010) 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 "Intelligent transport 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of an identical text or by endorsement, at the latest by January 2011, and conflicting national standards shall be withdrawn at the latest by January 2011.

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### Endorsement notice

The text of ISO 24534-1:2010 has been approved by CEN as a EN ISO 24534-1:2010 without any modification.

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## Introduction

A quickly emerging need has been identified with administrations to improve the unique identification of vehicles for a variety of services. Situations are already occurring where manufacturers intend to fit lifetime tags to vehicles. Various governments are considering the needs and benefits of electronic registration identification (ERI) as a legal proof of vehicle identity with potential mandatory uses. There is commercial and economic justification in respect of both tags and infrastructure that a standard enables an interoperable solution.

ERI is a means of uniquely identifying road vehicles. The application of ERI will offer significant benefits over existing techniques for vehicle identification. It will be a suitable tool for the future management and administration of traffic and transport, including applications in free-flow, multi-lane traffic conditions with the capability to support mobile transactions. ERI addresses the need of authorities and other road users for a trusted electronic identification, including roaming vehicles.

The unique vehicle identifier is held in a secure environment within an electronic registration tag (ERT) fitted to a vehicle. The identifier used to identify a vehicle is called the vehicle identifier or vehicleId. The preferred vehicle identifier is the VIN, assigned to the vehicle by its manufacturer in accordance with ISO 3779, or a variant of this vehicle identifier.

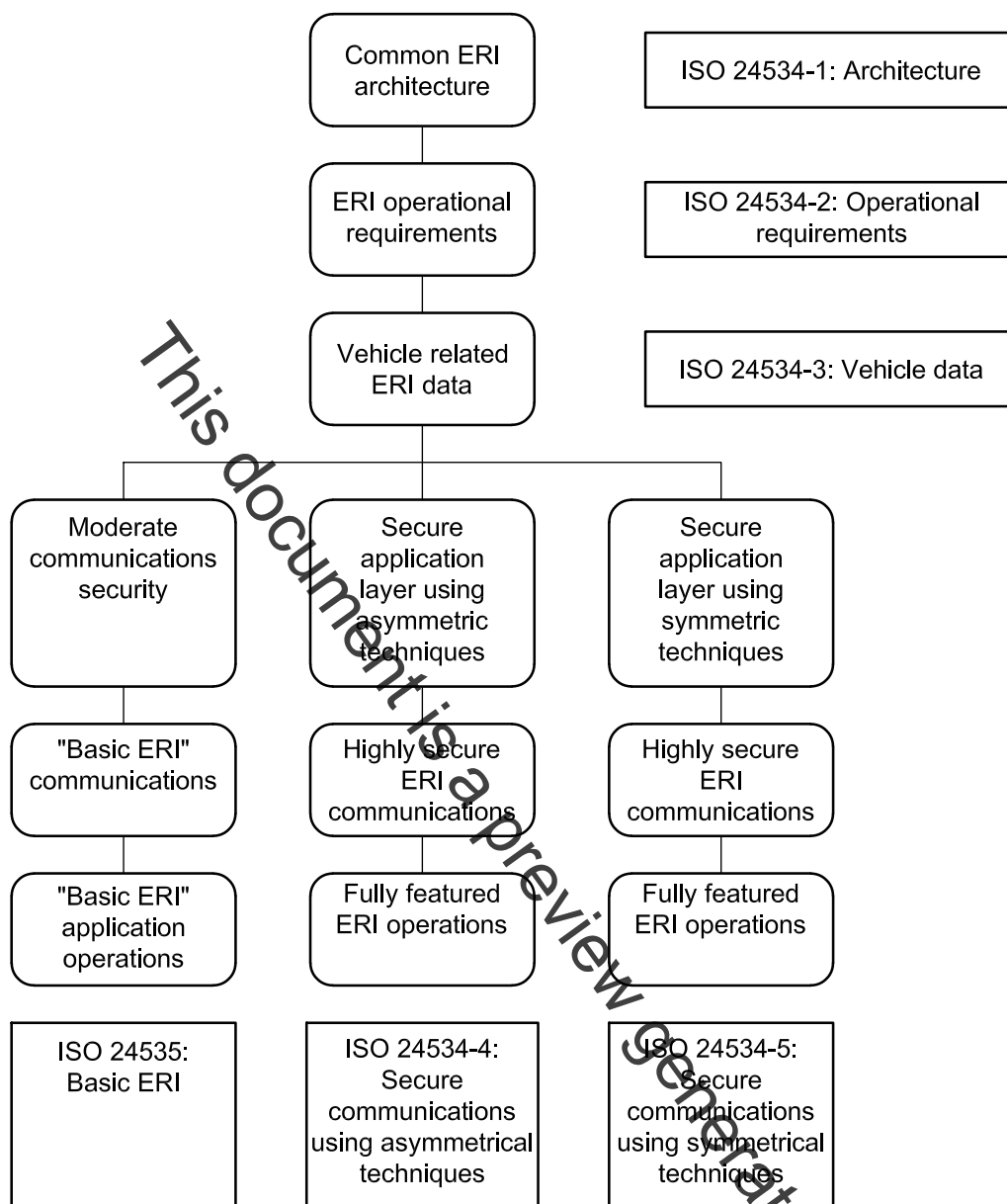
The ERT may contain vehicle data in addition to the unique identifier, as required by authorities or their agents for ERI applications (e.g. vehicle registration details). An ERT is the core component for simple to complex applications of ERI, ranging from a simple read-only device, with more complex applications requiring one or more communications systems.

The ERT may be accessed by an electronic registration reader (ERR), either to read, or read/write data, from or to an ERT.

Optionally, the ERT may communicate with other onboard vehicle equipment. The potential range of ERI applications, simple to complex, will require interoperability to exist between an ERT and an ERR by application.

This part of ISO 24534 illustrates the ERI system concept and the fully featured ERI function enabling simple to complex applications of ERI.

The various parts of ISO 24534 provide the overall framework for ERI and specification of requirements for “fully featured” ERI. An associated International Standard in this family of ERI standards, ISO 24535, provides a subset of these requirements to provide a “basic ERI” functionality. Figure 1 shows the functional stack accommodating both fully featured and basic ERI.



**Figure 1 — Functional stack accommodating both “fully featured” and “basic” ERI**

# Automatic vehicle and equipment identification — Electronic registration identification (ERI) for vehicles —

## Part 1: Architecture

### 1 Scope

This part of ISO 24534 provides requirements for electronic registration identification (ERI) that are based on an identifier assigned to a vehicle (e.g. for recognition by national authorities), suitable to be used for:

- electronic identification of local and foreign vehicles by national authorities;
- vehicle manufacturing, in-life maintenance and end-of-life identification (vehicle life cycle management);
- adaptation of vehicle data (e.g. for international resales);
- safety-related purposes;
- crime reduction;
- commercial services.

It adheres to privacy and data protection regulations.

This part of ISO 24534 provides an overview of the ERI system concept, in terms of the onboard vehicle components and the external off-vehicle components required for an operational system. The detailed requirements are defined in Parts 2, 3, 4 and 5 of ISO 24534 and more limited, though relevant, provisions are defined in ISO 24535.

### 2 Terms and definitions

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

#### 2.1

##### **additional vehicle data**

ERI data in addition to the vehicle identifier

#### 2.2

##### **air interface**

conductor-free medium between onboard ERI equipment and the reader/interrogator through which the linking of the onboard equipment to the reader/interrogator is achieved by means of electro-magnetic signals

[ISO 14814:2006, definition 3.2]

#### 2.3

##### **back office**

facility for the control and data management of an ERI system by an authority, or for the provision of related services by a service provider