

## DIN EN ISO 24534-3



ICS 35.240.60; 43.020

Ersatz für  
DIN EN ISO 24534-3:2011-10

**Intelligente Verkehrssysteme –  
Automatische Identifizierung von Fahrzeugen und Ausrüstungen –  
Elektronische Identifizierung für die Registrierung (ERI) von Fahrzeugen –  
Teil 3: Fahrzeugdaten (ISO 24534-3:2016);  
Englische Fassung EN ISO 24534-3:2016**

Intelligent transport systems –  
Automatic vehicle and equipment identification –  
Electronic registration identification (ERI) for vehicles – Part 3: Vehicle data  
(ISO 24534-3:2016);  
English version EN ISO 24534-3:2016

Systèmes de transport intelligents –  
Identification automatique des véhicules et des équipements –  
Identification d'enregistrement électronique (ERI) pour les véhicules – Partie 3: Données du  
véhicule (ISO 24534-3:2016);  
Version anglaise EN ISO 24534-3:2016

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DIN-Normenausschuss Automobiltechnik (NAAutomobil)

## **Nationales Vorwort**

Dieses Dokument (EN ISO 24534-3:2016) wurde vom technischen Komitee CEN/TC 278 „Intelligente Verkehrssysteme“ ausgearbeitet, dessen Sekretariat vom NEN (Niederlande) gehalten wird in Verbindung mit dem technischen Komitee ISO/TC 204 „Intelligent transport systems“.

Das zuständige deutsche Normungsgremium ist der Gemeinschaftsarbeitsausschuss NA 052-02-71 GA „Intelligente Verkehrssysteme“ des Normenausschusses Automobiltechnik (NA-Automobil).

Das Präsidium des DIN hat mit seinem Beschluss 1/2004 festgelegt, dass von dem in den Regeln der europäischen Normungsarbeit von CEN/CENELEC verankerten Grundsatz, wonach Europäische Normen in den drei offiziellen Sprachen Deutsch, Englisch und Französisch veröffentlicht werden, in begründeten Ausnahmefällen abgewichen und auf die deutsche Sprachfassung verzichtet werden kann.

Für den Applikationsbereich Elektronische Gebührenerhebung schafft diese Normenreihe standardisierte Identifikationsmerkmale für die elektronische Registrierung von Fahrzeugen. Dieser Teil der Norm ‚Fahrzeugdaten‘ beschreibt alle zur Identifikation der Registrierung relevanten Daten. Die Normenreihe unterstützt vor allem die Hersteller von Mautsystemen, die technische Entwicklung nicht mehr an den Lebenszyklus von Fahrzeugen anpassen müssen. Außerdem bietet es den Fahrzeugherstellern eine standardisierte Umsetzung der Identifikation über Landesgrenzen hinweg.

## **Änderungen**

Gegenüber DIN EN ISO 24534-3:2011-10 wurden folgende Änderungen vorgenommen:

- a) Ergänzung von Begriffen im Abschnitt 3;
- b) Abschnitt 5.5.1.1: Ergänzungen der ERI Datentypen;
- c) die Abschnitte 5.5.1.8, 5.5.11 sowie 5.6 wurden eingefügt;
- d) Anhang A wurde überarbeitet, Parameter zur elektronischen Gebührenerhebung ergänzt;
- e) Anhang C wurde ergänzt;
- f) Ergänzungen in den Literaturhinweisen.

## **Frühere Ausgaben**

DIN EN 24534-3: 2011-10

## Nationaler Anhang NA (informativ)

### Begriffe

Für die Anwendung dieses Dokuments gelten die folgenden Begriffe.

#### 3.1

##### **zusätzliche Fahrzeugdaten**

(en: additional vehicle data)

*ERI-Daten* (3.5) zusätzlich zum Fahrzeugbezeichner

#### 3.2

##### **Attribut**

(en: attribute)

*Typ* (3.12) mit einem zugeordneten Bezeichner

[QUELLE: ISO/IEC 8824-1:2008, Anhang G.2.15.1, modifiziert]

#### 3.3

##### **unterscheidbarer Bezeichner**

(en: distinguishing identifier)

Information, die eindeutig eine Instanz unterscheidet

[QUELLE: ISO/IEC 9798-1, 3.12, modifiziert]

#### 3.4

##### **elektronische Identifizierung einer Registrierung**

##### **ERI**

(en: electronic registration identification)

Aktion oder Handlung einer Fahrzeugidentifikation auf elektronischem Wege entsprechend der in diesem Teil der ISO 24534 definierten Zielsetzung im Anwendungsbereich

#### 3.5

##### **ERI-Daten**

(en: ERI data)

Daten zur Identifizierung eines Fahrzeugs, die sich auf eine *elektronische Registrierungsplakette* (3.6) beziehen

Anmerkung 1 zum Begriff: ERI-Daten bestehen aus dem Fahrzeugbezeichner und möglichen zusätzlichen *Fahrzeugdaten* (3.1).

### 3.6 elektronische Registrierungsplakette ERT

(en: electronic registration tag)

im Fahrzeug befindliches ERI-Gerät, welches die *ERI-Daten* (3.5) inklusive alle notwendigen Sicherheitsvorhaltungen beinhaltet und eine oder mehrere Schnittstelle(n) für den Datenzugriff hat

Anmerkung 1 zum Begriff: Im Fall hoher Sicherheit ist die elektronische Registrierungsplakette ein sicheres Anwendungsmodul.

Anmerkung 2 zum Begriff: Die elektronische Registrierungsplakette *darf* ein separates Gerät sein oder *darf* in ein im Fahrzeug befindliches Gerät integriert sein, dass weitere Ressourcen hat (z. B. DSRC Kommunikation).

### 3.7 periodische Motorfahrzeugprüfung

(en: periodic motor vehicle test)

vorgeschriebene periodische (z. B. jährliche) Prüfung der Fahrtüchtigkeit eines Motorfahrzeuges über einem bestimmten Alter, oder ein Zertifikat darüber, dass eine solche Prüfung bestanden wurde

BEISPIEL Ein Beispiel ist die MOT-Prüfung in Großbritannien.

### 3.8 Vertraulichkeit

(en: privacy)

Rechte Einzelner zur Steuerung oder Einflussnahme, welche Informationen über sie gesammelt und gespeichert, und von wem und an wen diese Informationen weitergegeben werden dürfen

[QUELLE: ISO 7498-2, 3.3.43]

Anmerkung 1 zum Begriff: Da dieser Begriff sich auf die Rechte Einzelner bezieht, kann dieser nicht sehr präzise sein und dessen Nutzung sollte vermieden werden, mit Ausnahme als Motivation zur Anforderung von Sicherheit.

### 3.9 Registrierungsbehörde

(en: registration authority)

<für Fahrzeuge> Behörde, die für die Registrierung und Pflege von Fahrzeugaufzeichnungen verantwortlich ist

Anmerkung 1 zum Begriff: Die Behörde *darf* akkreditierten Organisationen Fahrzeugaufzeichnungen zur Verfügung stellen.

### 3.10 Registrierungsbehörde

(en: registration authority)

<für ERI-Daten> Organisation, die für das Schreiben von *ERI-Daten* (3.5) sowie sicherheitsrelevanten Daten entsprechend der lokalen Gesetzgebung verantwortlich ist

Anmerkung 1 zum Begriff: Die Registrierungsbehörde für *ERI-Daten* *darf* die gleiche wie die *Registrierungsbehörde* (3.9) für Fahrzeuge sein. Trotzdem wird das von diesem Teil der ISO 24534 nicht gefordert.

### 3.11 Registrierungszertifikat

(en: registration certificate)

von einer *Registrierungsbehörde* (3.9) ausgestelltes Fahrzeugregistrierungsdokument (Papier oder Smart-Card) für Fahrzeuge, in dem das Fahrzeug und sein Besitzer oder Mieter registriert sind

**3.12**

**Typ**

(en: type)

benannte Menge von Werten

[QUELLE: ISO/IEC 8824-1, 3.8.86]

— Leerseite —

English Version

Intelligent transport systems —  
Automatic vehicle and equipment identification —  
Electronic registration identification (ERI) for vehicles —  
Part 3: Vehicle data  
(ISO 24534-3:2016)

Systèmes de transport intelligents —  
Identification automatique des véhicules  
et des équipements —  
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die Registrierung (ERI) von Fahrzeugen —  
Teil 3: Fahrzeugdaten  
(ISO 24534-3:2016)

This European Standard was approved by CEN on 4 March 2016.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

## **European foreword**

This document (EN ISO 24534-3:2016) has been prepared by Technical Committee ISO/TC 204 “Intelligent transport systems” in collaboration with Technical Committee CEN/TC 278 “Intelligent transport systems” the secretariat of which is held by NEN.

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 October 2016, and conflicting national standards shall be withdrawn at the latest by October 2016.

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

This document supersedes EN ISO 24534-3:2010.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **Endorsement notice**

The text of ISO 24534-3:2016 has been approved by CEN as EN ISO 24534-3:2016 without any modification.

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 204, *Intelligent transport systems*.

This second edition cancels and replaces the first edition (ISO 2453-3:2010), which has been technically revised.

ISO 24534 consists of the following parts, under the general title *Automatic vehicle and equipment identification — Electronic registration identification (ERI) for vehicles*:

- *Part 1: Architecture*
- *Part 2: Operational requirements*
- *Part 3: Vehicle data*
- *Part 4: Secure communications using asymmetrical techniques*
- *Part 5: Secure communications using symmetrical techniques.*

## Introduction

A quickly emerging need has been identified within 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 ERI, such as legal proof of vehicle identity with potential mandatory usages. There is a commercial and economic justification both in respect of tags and infrastructure that a standard enables an interoperable solution.

Electronic registration identification (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 an enabling technology 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 users for a trusted electronic identification, including roaming vehicles.

This part of ISO 24534 specifies the vehicle-related data that can be exchanged between an onboard electronic registration tag (ERT) and an ERI reader/writer inside or outside the vehicle. The vehicle-related data consist of the vehicle identifier and may also include additional vehicle data as typically included in a vehicle registration certificate.

This part of ISO 24534 does not provide any accurate definitions for additional vehicle data items. This is left to the local registration authorities and/or local legislation. This part of ISO 24534 only provides the means for an unambiguous exchange of vehicle parameters registered by local registration authorities.

This part of ISO 24534 makes use of the basic automatic vehicle identification (AVI) definitions in ISO 14816.

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

## Part 3: Vehicle data

### 1 Scope

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

- 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. in case of international re-sales;
- safety-related purposes;
- crime reduction;
- commercial services;
- adhering to privacy and data protection regulations.

This part of ISO 24534 defines the vehicle identification data. This data is called the ERI data and includes the following:

- the vehicle identifier;
- possible additional vehicle-related information (as typically included in a vehicle registration certificate).

All additional vehicle data elements are defined as optional. It is left to local legislation and/or the discretion of a registration authority to use or not to use a particular data element. If used, the value is assumed to be the one registered by the registration authority in accordance with local legislation. This part of ISO 24534 only provides the syntax for all these data elements.

**NOTE** The secure application layer interfaces for the exchange of ERI data with an ERI reader or writer are specified in ISO 24534-4 and in ISO 24534-5.

### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 612:1978, *Road vehicles — Dimensions of motor vehicles and towed vehicles — Terms and definitions*

ISO 1176:1990, *Road vehicles — Masses — Vocabulary and codes*

ISO 3779, *Road vehicles — Vehicle identification number (VIN) — Content and structure*

ISO 3780, *Road vehicles — World manufacturer identifier (WMI) code*

ISO 3833, *Road vehicles — Types — Terms and definitions*

ISO/IEC 8824 (all parts), *Information technology — Abstract Syntax Notation One (ASN.1)*

ISO/IEC 8825-2:2008, *Information technology — ASN.1 encoding rules: Specification of Packed Encoding Rules (PER)*

ISO 14816, *Road transport and traffic telematics — Automatic vehicle and equipment identification — Numbering and data structure*

### 3 Terms and definitions

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

#### 3.1

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

*ERI data* (3.5) in addition to the vehicle identifier

#### 3.2

##### **attribute**

*type* (3.12) with an associated identifier

[SOURCE: ISO/IEC 8824-1:2008, Annex G.2.15.1, modified]

#### 3.3

##### **distinguishing identifier**

information which unambiguously distinguishes an entity

[SOURCE: ISO/IEC 9798-1, 3.12, modified]

#### 3.4

##### **electronic registration identification**

##### **ERI**

action or act of identifying a vehicle with electronic means for purposes as mentioned in the scope of this part of ISO 24534

#### 3.5

##### **ERI data**

vehicle identifying data which can be obtained from an *ERT* (3.6)

Note 1 to entry: ERI data consist of the vehicle identifier and possible *additional vehicle data* (3.1).

#### 3.6

##### **electronic registration tag**

##### **ERT**

onboard ERI device that contains the *ERI data* (3.5) including relevant security provisions and one or more interfaces to access that data

Note 1 to entry: In case of high security, the ERT is a secure application module (SAM).

Note 2 to entry: The ERT may be a separate device or may be integrated into an onboard device that also provides other capabilities (e.g. DSRC communications).

#### 3.7

##### **periodic motor vehicle test**

compulsory periodic (e.g. annual) test of the roadworthiness of a motor vehicle of above a specified age or a certificate of passing such a test

EXAMPLE The MOT test in the United Kingdom is an example.

### 3.8

#### **privacy**

right of individuals to control or influence what information related to them may be collected and stored and by whom and to whom that information may be disclosed

[SOURCE: ISO 7498-2, 3.3.43]

Note 1 to entry: Since this term relates to the right of individuals, it cannot be very precise and its use should be avoided except as a motivation for requiring security.

### 3.9

#### **registration authority**

<for vehicles> authority responsible for the registration and maintenance of vehicle records

Note 1 to entry: The authority may provide vehicle records to accredited organizations.

### 3.10

#### **registration authority**

<for ERI data> organization responsible for writing *ERI data* (3.5) and security data according to local legislation

Note 1 to entry: The registration authority for ERI data may be the same as the *registration authority* (3.9) for vehicles. This part of ISO 24534, however, does not require this.

### 3.11

#### **registration certificate**

vehicle registration document (paper or smart card) issued by the *registration authority* (3.9) for vehicles in which the vehicle and its owner or lessee are registered

### 3.12

#### **type**

named set of values

[SOURCE: ISO/IEC 8824-1, 3.8.86]

## 4 Abbreviations

|       |                                                                      |
|-------|----------------------------------------------------------------------|
| AEI   | Automatic Equipment Identification                                   |
| ASN.1 | Abstract Syntax Notation One [as defined in ISO 8824 (all parts)]    |
| AVI   | Automatic Vehicle Identification                                     |
| EEA   | European Economic Area                                               |
| EFC   | Electronic Fee Collection                                            |
| EN    | Europäische Norm (German), English: European Standard                |
| ENV   | Europäische Norm Voraussage (German), English: European Pre-Standard |
| ERI   | Electronic Registration Identification                               |
| ERT   | Electronic Registration Tag                                          |
| EU    | European Union                                                       |
| IEC   | International Electrotechnical Commission                            |
| ISO   | International Organization for Standardization                       |
| VIN   | Vehicle Identification Number                                        |

## 5 Requirements

### 5.1 Vehicle identification data

This subclause is informative only.

The secure onboard environment in which the vehicle identification data is stored is called the electronic registration tag (ERT).

Clause 5 provides an abstract definition of the ERI data to be exchanged between the ERT and an ERI reader or writer. The abstract definitions are defined using abstract syntax notation one (ASN.1) as defined in ISO 8824 (all parts).

The identifier used to identify a vehicle is called the vehicle identifier or `vehicleId`. The preferred vehicle identifier is the VIN that is assigned to the vehicle by its manufacturer in accordance with ISO 3779.

However, in order to make this part of ISO 24534 also applicable in countries where the VIN is not used, an alternative is also supported (see 5.2). The fundamental requirement is that the combination of a registration authority and a vehicle identifier should be globally distinguishing.

NOTE 1 As two vehicles built 30 years after each other may have the same VIN, the VIN is not 100 % unique.

NOTE 2 Empirical data has shown that a database of a registration authority may contain duplicate VIN numbers.

NOTE 3 In this part of ISO 24534, the combination of the almost unique `vehicleId` and a unique ERT number may be used as the unambiguous distinguishing identifier. The ERT number is a unique read-only identifier that is written into the ERT during ERT manufacturing time (see EN ISO 24534-4 and ISO 24534-5 for details).

Apart from the vehicle identifier, this part of ISO 24534 also supports the use of additional vehicle data as typically included in a vehicle registration certificate. This additional vehicle data may, for example, be used as

- additional identification information to improve the trust in a vehicle identifier, and
- certified vehicle information for other applications (e.g. for tolling to determine a tariff).

## 5.2 Vehicle identifier

The `VehicleId` type shall be used for the vehicle identifier according to local legislation and is defined as follows.

```
VehicleId ::= CHOICE {
    vin                VIN,                -- preferred choice
    raSpecificVehicleId RaSpecificVehicleId,
    ...
}
```

VIN ::= CS5

NOTE 1 The ‘..’ at the end of the definition designates that the type `VehicleId` may be extended with additional components at the end of the type definition in new versions of this part of ISO 24534, e.g. to cope with a new VIN standard.

The vehicle identifier should be a globally distinguishing identifier.

NOTE 2 When identifying a vehicle, the ERT always delivers the `VehicleId` in combination with the identifier of the registration authority and the ERT number. The identifier of the registration authority may be used to obtain additional information about the vehicle. The ERT number is an extra unique identifier from another source that may be used to resolve potential disputes about the VIN of a vehicle.

NOTE 3 The choice of which alternative is used is outside the scope of this part of ISO 24534. It may, for example, depend on local legislation.

The VIN alternative, if used, shall be of type VIN and is the preferred vehicle identifier. The type VIN is identical to the type CS5 as defined in ISO 14816. The value of the VIN alternative shall be the value of the VIN as assigned conforming to ISO 3779 by a manufacturer or a registration authority.

The `RaSpecificVehicleId` alternative, if used, shall contain a globally distinguishing identifier for the vehicle and shall be of type `raSpecificVehicleId` as defined below.

```
RaSpecificVehicleId ::= SEQUENCE {
    wmi                                UTF8String (SIZE(3)),
    nonIsoStandardId                  UTF8String (SIZE (1..20))
}
```

The `wmi` component shall contain the world manufacturer identifier (WMI) code of the organization that assigned the `nonIsoStandardId` value and the WMI code shall be assigned to this organization according to ISO 3780.

The `nonIsoStandardId` component shall be of type `UTF8String` with a maximum length of 20 characters.

NOTE Any additional meaning conveyed in the value of a `nonIsoStandardId` component is outside the scope of this part of ISO 24534.

### 5.3 ERI data type

The `EriData` type shall be used for the ERI data and is defined as follows:

```
EriData ::= SEQUENCE {
    vehicleId          VehicleId,
    additionalEriData   AdditionalEriData OPTIONAL
}
```

The `vehicleId` component shall contain the vehicle's identifier as defined in 5.2.

The `additionalEriData` component, if present, shall contain the additional ERI data.

### 5.4 Additional ERI data type

The type `AdditionalEriData` type is used for the additional ERI data and is defined as follows:

```
AdditionalEriData ::= CHOICE {
    additionalEriRegistrationData   AdditionalEriRegistrationData, -
    preferred choice
    ...,
    raSpecificAdditionalEriData     OCTET STRING (SIZE (0..1024))
    -- only to be used if
    AdditionalEriRegistrationData is not supported
}
```

The `additionalEriRegistrationData` alternative is the preferred alternative and shall be chosen whenever a value of the type `AdditionalEriRegistrationData` can be used.

The `raSpecificAdditionalEriData` alternative is of type `OCTET STRING` with a maximum length of 1 024 octets and shall only be used if a value of `additionalEriRegistrationData` cannot be used.

NOTE The '...' in the definition designates that the type `AdditionalEriData` may be extended with additional alternatives at the end of the type definition in new versions of this part of ISO 24534, e.g. to cope with a new version of the alternative ERI registration data.

### 5.5 Additional ERI registration data

#### 5.5.1 Additional ERI registration data type

##### 5.5.1.1 Definition of the additional ERI registration data type

The `AdditionalEriRegistrationData` type contains the vehicle related data typically found in a vehicle registration certificate and is defined as follows.

```
AdditionalEriRegistrationData ::= SEQUENCE {
    -- Administrative data
    registrationAuthority          RegistrationAuthority OPTIONAL,
    vehicleIdStatus                VehicleIdStatus OPTIONAL,
    dateOfFirstRegistration         DateOfFirstRegistration OPTIONAL,
    dateOfRegistration             DateOfRegistration OPTIONAL,
}
```

|                                                             |                                                                 |
|-------------------------------------------------------------|-----------------------------------------------------------------|
| validThru                                                   | ValidThru OPTIONAL,                                             |
| chassisNumber                                               | ChassisNumber (SIZE (1..23))<br>OPTIONAL,                       |
| registrationNumber                                          | RegistrationNumber OPTIONAL,                                    |
| <br><i>-- Vehicle type</i>                                  |                                                                 |
| vehicleMake                                                 | VehicleMake OPTIONAL,                                           |
| vehicleType                                                 | VehicleType OPTIONAL,                                           |
| vehicleTypeStatus                                           | VehicleTypeStatus OPTIONAL,                                     |
| commercialDescription                                       | CommercialDescription OPTIONAL,                                 |
| typeApprovalNumber                                          | TypeApprovalNumber OPTIONAL,                                    |
| vehicleCategory                                             | VehicleCategory OPTIONAL,                                       |
| vehicleTaxCategory                                          | VehicleTaxCategory OPTIONAL,                                    |
| euVehicleCategoryCode                                       | EuVehicleCategoryCode OPTIONAL,                                 |
| raSpecificVehicleClass1                                     | RaSpecificVehicleClass1 OPTIONAL,                               |
| raSpecificVehicleClass2                                     | RaSpecificVehicleClass2 OPTIONAL,                               |
| raSpecificVehicleClass3                                     | RaSpecificVehicleClass3 OPTIONAL,                               |
| vehicleUse                                                  | VehicleUse OPTIONAL,                                            |
| privateUse                                                  | PrivateUse OPTIONAL,                                            |
| colour                                                      | VehicleColour OPTIONAL,                                         |
| <br><i>-- Vehicle shape</i>                                 |                                                                 |
| length                                                      | VehicleLength OPTIONAL,                                         |
| width                                                       | VehicleWidth OPTIONAL,                                          |
| height                                                      | VehicleHeight OPTIONAL,                                         |
| wheelbase                                                   | Wheelbase OPTIONAL,                                             |
| bodyShape                                                   | VehicleBodyShape OPTIONAL,                                      |
| euBodyWorkType                                              | EuBodyWorkType OPTIONAL,                                        |
| iso3833VehicleType                                          | Iso3833VehicleType OPTIONAL,                                    |
| <br><i>-- Vehicle number of passengers, axles, and mass</i> |                                                                 |
| numberOfSeats                                               | NumberOfSeats OPTIONAL, --<br>including the driver seat         |
| numberOfStandingPlaces                                      | NumberOfStandingPlaces OPTIONAL,                                |
| maxNumberOfPassengers                                       | MaxNumberOfPassengers OPTIONAL,<br>-- including the driver      |
| unladenWeight                                               | UnladenWeight OPTIONAL,                                         |
| maxDesignLadenMass                                          | MaxDesignLadenMass OPTIONAL,                                    |
| maxAuthorizedLadenMass                                      | MaxAuthorizedLadenMass OPTIONAL,                                |
| maxAuthorizedTrainMass                                      | MaxAuthorizedTrainMass OPTIONAL,                                |
| maxAuthorizedPayload                                        | MaxAuthorizedPayload OPTIONAL,                                  |
| numberOfAxles                                               | NumberOfAxles OPTIONAL,                                         |
| authorizedAxleLadenMass                                     | AuthorizedAxleLadenMass OPTIONAL,<br>-- from front to rear axle |
| maxTowableMassBrakedTrailer                                 | MaxTowableMassBrakedTrailer                                     |
| OPTIONAL,                                                   |                                                                 |
| maxTowableMassUnbrakedTrailer                               | MaxTowableMassUnbrakedTrailer                                   |
| OPTIONAL,                                                   |                                                                 |
| <br><i>-- Vehicle engine and power source</i>               |                                                                 |
| engineId                                                    | EngineId (SIZE (1..60)) OPTIONAL,                               |
| primeEngineType                                             | PrimeEngineType OPTIONAL,                                       |
| enginePowerSources                                          | EnginePowerSources OPTIONAL,                                    |
| primePowerSource                                            | PrimePowerSource OPTIONAL,                                      |
| engineMaxNetPower                                           | EngineMaxNetPower OPTIONAL,                                     |
| engineDisplacement                                          | EngineDisplacement OPTIONAL,                                    |
| ratedEngineSpeed                                            | RatedEngineSpeed OPTIONAL,                                      |
| powerWeightRatio                                            | PowerWeightRatio OPTIONAL,                                      |
| maxSpeed                                                    | MaxSpeed OPTIONAL,                                              |
| fuelTanksCapacity                                           | FuelTanksCapacity OPTIONAL,                                     |
| <br><i>-- Environmental characteristics</i>                 |                                                                 |
| stationarySoundLevel                                        | StationarySoundLevel OPTIONAL,                                  |
| engineSpeed                                                 | EngineSpeed OPTIONAL,                                           |
| driveBySoundLevel                                           | DriveBySoundLevel OPTIONAL,                                     |

```

        emissionCO          EmissionCO OPTIONAL,
        emissionHC          EmissionHC OPTIONAL,
        emissionNOx        EmissionNOx OPTIONAL,
        emissionHCandNOx    EmissionHCandNOx OPTIONAL,
        particulatesForDiesel ParticulatesForDiesel OPTIONAL,
        correctedAbsorptionCoefficient CorrectedAbsorptionCoefficient
OPTIONAL,
        emissionCO2        EmissionCO2 OPTIONAL,
        combinedFuelConsumption CombinedFuelConsumption OPTIONAL,
        environmentalCategory EnvironmentalCategory OPTIONAL,
        euroType            EuroType OPTIONAL,

        -- Others
        lastOfficialTestData OfficialVehicleTestData OPTIONAL,
        ...,
        raSpecificData      RaSpecificData OPTIONAL
        axlesPerAxleGroup    AxlesPerAxleGroup OPTIONAL,
                                -- from front to rear axle group
        authorizedAxleGroupLadenMass AuthorizedAxleGroupsLadenMass
OPTIONAL,
                                -- from front to rear axle group

        -- ERI data used for EFC (types imported from
ElectronicRegistrationIdentificationEfcVehicleData
        efcVehicleDimensions VehicleDimensions,
        efcPassengerCapacity PassengerCapacity,
        efcVehicleWeightLimits VehicleWeightLimits,
        efcAxleWeightLimits AxleWeightLimits,
        efcVehicleSpecificCharacteristics
VehicleSpecificCharacteristics,
        efcTrailerCharacteristics TrailerCharacteristics,
        efcEngine            Engine,
        efcSoundLevel        SoundLevel,
        efcCO2EmissionValue CO2EmissionValue,
        efcExhaustEmissionValues ExhaustEmissionValues,
        efcDieselEmissionValues DieselEmissionValue,
        ...
    }

```

The type of the components of the `AdditionalEriRegistrationData` type is defined in 5.5 below.

NOTE 1 The ‘..’ at the end of the `AdditionalEriRegistrationData` definition designates that the `AdditionalEriRegistrationData` type may be still extended with additional components at the end of the type definition in new versions of this part of ISO 24534.

All components are optional. Whether or not an optional component is present or absent depends on local legislation and/or the discretion of the vehicle’s registration authority.

The precise meaning of a value of a component, if present, shall be determined by local legislation and/or the vehicle’s registration authority and shall always take precedence over a definition in this part of ISO 24534.

NOTE 2 This part of ISO 24534 only facilitates the exchange of ERI registration data values for the purpose of vehicle identification. Both the precise definition of terms and the assignment of values in a particular state or country are outside the scope of this part of ISO 24534.

In order to maintain consistency with the vehicle’s registration certificate, the value of a component, if present and applicable, should be equal to or at least as precise as the value of the corresponding data item on the vehicle’s registration certificate.

### 5.5.1.2 Administrative data components

The `registrationAuthority` component, if present, shall identify the registration authority that registered the vehicle.

The `vehicleIdStatus` component, if present, shall specify the status of the vehicle identifier.

The `vehicleIdStatus` component shall not be present for a VIN-based vehicle identifier.

The `dateOfFirstRegistration` component, if present, shall specify the date of the first registration of the vehicle with its current registration authority.

The `dateOfRegistration` component, if present, shall specify the date of the registration to which this ERI data refers.

The `validThru` component, if present, shall specify the last day the ERI data is valid. If not present, the validity period may be assumed to be unlimited.

The `chassisNumber` component, if present, shall specify the chassis number of the vehicle.

The `registrationNumber` component, if present, shall specify the vehicle's registration number as assigned by the registration authority.

### **5.5.1.3 Vehicle type components**

The `vehicleMake` component, if present, shall specify the make of the vehicle as assigned by the vehicle manufacturer.

The `vehicleType` component, if present, shall specify the variant, if applicable, and/or the version, if applicable, of the vehicle as assigned by the vehicle manufacturer.

The `vehicleTypeStatus` component, if present, shall specify the status of the vehicle type.

The `commercialDescription` component, if present, shall contain the commercial description(s) of the vehicle.

The `typeApprovalNumber` component, if present, shall specify the type-approval number.

The `vehicleCategory` component, if present, shall specify the vehicle category according to local legislation.

The `vehicleTaxCategory` component, if present, shall specify the vehicle tax category according to local legislation.

The `euVehicleCategoryCode` component, if present, shall specify the vehicle category according to the EU directives EU 2001/116, EU 2002/24, and UNECE 1999.

The `raSpecificVehicleClass1` component, if present, shall contain a registration authority specific vehicle class, category, or code.

The `raSpecificVehicleClass2` component, if present, shall contain a registration authority specific vehicle class, category, or code.

The `raSpecificVehicleClass3` component, if present, shall contain a registration authority specific vehicle class, category, or code.

The `vehicleUse` component, if present, shall specify the use of the vehicle.

The `privateUse` component, if present, shall specify whether the vehicle is for private or for commercial use.

The `colour` component, if present, shall specify the colour of the vehicle.

### **5.5.1.4 Vehicle shape components**

The `length` component, if present, shall specify the length of the vehicle.

The `width` component, if present, shall specify the width of the vehicle.

The `height` component, if present, shall specify the height of the vehicle.

The `wheelbase` component, if present, shall specify the wheelbase of the vehicle.

The `bodyShape` component, if present, shall specify the shape of the body of the vehicle.

The `euBodyWorkType` component, if present, shall specify the type of body work of the vehicle according to EU 2001/116.

The `iso3833VehicleType` component, if present, shall specify the type of the vehicle according to ISO 3833.

#### 5.5.1.5 Vehicle number of passengers, axles, and mass components

The `numberOfSeats` component, if present, shall specify the number of seats including the driver seat.

The `numberOfStandingPlaces` component, if present, shall specify the number of standing places.

The `maxNumberOfPassenger` component, if present, shall specify the maximum permissible number of passengers (including the driver) that may use the vehicle.

The `unladenWeight` component, if present, shall specify the nominal unladen mass of the vehicle with bodywork.

The `maxDesignLadenMass` component, if present, shall specify the maximum technically permissible total mass of the vehicle including payload (but excluding the weight of trailers).

The `maxAuthorizedLadenMass` component, if present, shall specify the maximum permissible total mass of the vehicle including payload (but excluding the mass of trailers) when in service in the jurisdiction of the registration authority.

The `maxAuthorizedTrainMass` component, if present, shall specify the maximum permissible total mass in kilograms of the whole vehicle including payload (and including trailers and the payload of trailers) when in service in the jurisdiction of the registration authority.

The `maxAuthorizedPayload` component, if present, shall specify the maximum permissible payload of the vehicle (but excluding the payload of trailers).

The `numberOfAxles` component, if present, shall specify the number of axles of the vehicle (including lifted axles).

The `axlesPerAxleGroup` component, if present, shall specify the number of axles of each axle group of the vehicle (including lifted axles).

The `authorizedAxleLadenMass` component, if present, shall specify the maximum laden mass on each axle in kilograms.

The `authorizedAxleGroupLadenMass` component, if present, shall specify the maximum laden mass on each axle group in kilograms.

The `maxTowableMassBrakedTrailer` component, if present, shall specify the technically permissible maximum braked towable mass of the trailer.

The `maxTowableMassUnbrakedTrailer` component, if present, shall specify the technically permissible maximum unbraked towable mass of the trailer.

#### 5.5.1.6 Vehicle engine and power source components

The `engineId` component, if present, shall specify the engine identification number.

The `primeEngineType` component, if present, shall specify type of the prime engine of the vehicle as assigned by the manufacturer.

The `enginePowerSource` component, if present, shall specify the power source(s) of the vehicle.