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**Earth-moving machinery and mobile  
road construction machinery —  
Worksite data exchange —**

**Part 3:  
Telematics data**

*Engins de terrassement et machines mobiles de construction de  
routes — Échange de données sur le chantier —*

*Partie 3: Données télématiques*



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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)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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 World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

The committee responsible for this document is Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 3, *Machine characteristics, electrical and electronic systems, operation and maintenance*.

This part of ISO 15143 is intended to be used in conjunction with ISO 15143-1 and ISO 15143-2.

A list of all parts in the ISO 15143 series can be found on the ISO website.

## Introduction

This document is a data schema having the purpose of providing data directly from the equipment manufacturer or provider to the equipment owner in a standardized format for the use and convenience of equipment owners with mixed fleets of equipment.

It defines a set of web services that provide information about fleets of mobile equipment and their associated telematics data. The information about a fleet is provided as a resource, typically on the Internet, at a known Uniform Resource Location (URL). Any number of fleets can be represented, each with its own URL.

Clients can access these resources by sending HTTPS GET requests to the server at the given location. The server responds with an equipment information document whose vocabulary is defined in this document.

ISO/TC 127/SC 3 wishes to acknowledge the Association of Equipment Manufacturers and the Association of Equipment Management Professionals for their contributions to prior work on this subject.

The goal of this document is to provide direct access by end users to their specific fleet data, and not to enable third parties for data aggregation across end users or other purposes. The use of this document enables each end user or assigned third-party application developer to develop applications for purposes deemed appropriate by the end user.



# Earth-moving machinery and mobile road construction machinery — Worksite data exchange —

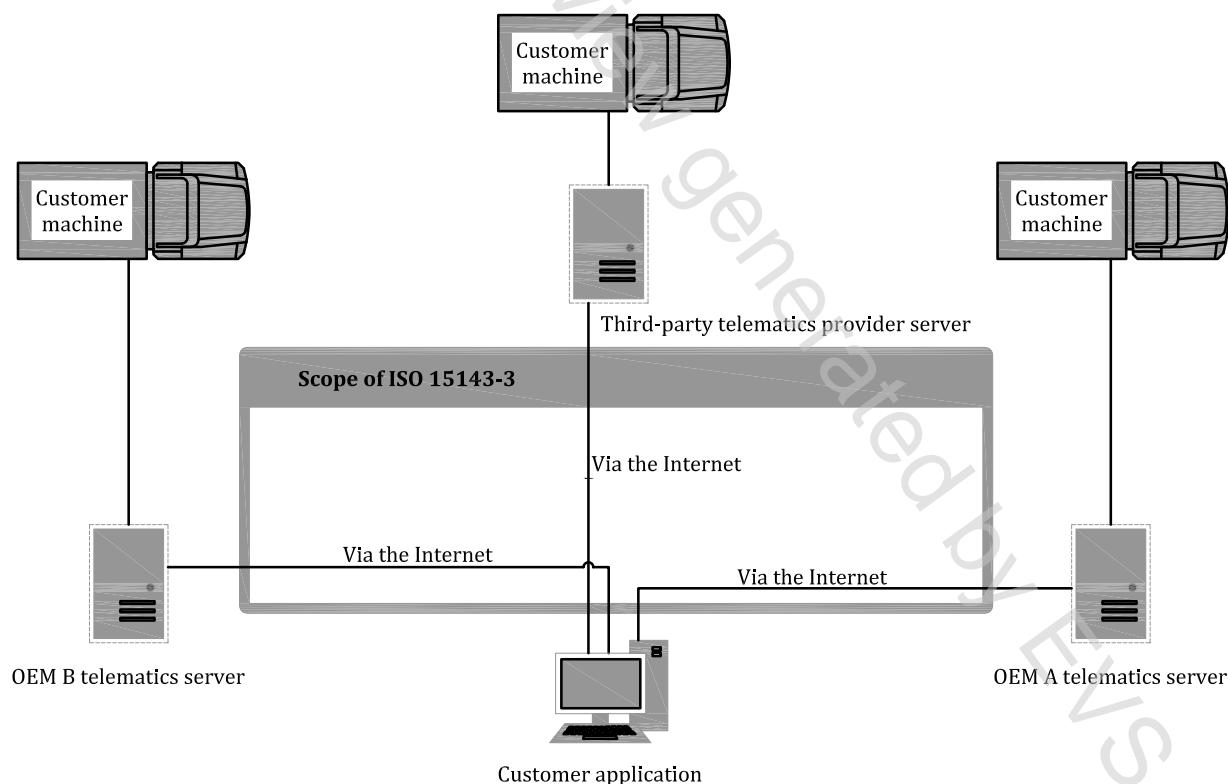
## Part 3: Telematics data

### 1 Scope

This document specifies the communication schema designed to provide mobile machinery status data from a telematics provider's server to third-party client applications via the Internet. The data are collected from a mobile machine using telematics data-logging equipment and stored on a telematics provider's server. This document describes the communications records used to request data from the server and the responses from the server containing specified data elements to be used in the analysis of machine performance and health.

It is applicable to mobile earth-moving machinery as defined in ISO 6165 and mobile road construction machinery as defined in ISO 22242 equipped with location and time instrumentation.

It is not applicable to the on-board data collection, on-board communication protocol (e.g. CANbus) or wireless transmission of the mobile machinery data to the telematics provider's server *after* the data have been collected at the data logger. See [Figure 1](#).



**Figure 1 — Topography of conceptual mixed fleet telematics system within the scope of this document**

## 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.

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

ISO 6405-1, *Earth-moving machinery — Symbols for operator controls and other displays — Part 1: Common symbols*

ISO 6405-2, *Earth-moving machinery — Symbols for operator controls and other displays — Part 2: Specific symbols for machines, equipment and accessories*

ISO 8601, *Data elements and interchange formats — Information interchange — Representation of dates and times*

ISO 10261, *Earth-moving machinery — Product identification numbering system*

ISO 15143-1:2010, *Earth-moving machinery and mobile road construction machinery — Worksite data exchange — Part 1: System architecture*

ISO 15143-2:2010, *Earth-moving machinery and mobile road construction machinery — Worksite data exchange — Part 2: Data dictionary*

ECMA-404, *The JSON Data Interchange Format*

IETF RFC 7231, *Hypertext Transfer Protocol (HTTP/1.1): Semantics and Context*

## 3 Terms, definitions and abbreviated terms

For the purposes of this document, the following terms, definitions and abbreviated terms (see [Table 1](#)) apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

### 3.1

#### **caution codes referencing number**

ISO/IEC symbol registration number as defined in ISO 7000 and referenced in ISO 6405-1

Note 1 to entry: Caution codes referencing numbers are returned from the telematics provider server and refer to standardized symbols representing various conditions present on EMM.

### 3.2

#### **construction worksite**

location of the operation of a fleet of mobile equipment generally identified as construction machines where the machines are used to perform work

### 3.3

#### **data element**

instance of data transmitted by the OEM server to the third-party application adhering to the definition of the quantity or condition described by [Clause 11](#) of this document

### 3.4

#### **discoverability**

requirement that the data be stored in such a manner that it can be accessed if necessary