INTERNATIONAL STANDARD

ISO 24533-2

First edition
2022-05

Intelligent transport systems — Electronic information exchange to facilitate the movement of freight and its intermodal transfer —

Part 2: Common reporting system

Reference number
ISO 24533-2:2022(E)

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

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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).

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).

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

For an explanation of the voluntary nature of standards, 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems.*

This first edition cancels and replaces the first edition (ISO/TS 24533:2012), which has been technically revised.

The main changes are as follows:

— removal of information on the interoperability of freight data exchange standards (intended to be the subject of ISO/AWI 24533-1:—[1)]);

— inclusion of information on a common reporting system allowing industry and government to communicate on freight data requirements and needs in an interoperable manner.

A list of all parts in the ISO 24533 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

1) Under development. Stage at the time of publication: ISO/AWI 24533-1:2022.

Introduction

The seamless exchange of accurate, complete and timely data communication at transportation hand-offs has always been important for efficiency and accountability. Hand-offs with a universal method of exchange that allows data interoperability between all parties in the supply chain is critically important for maximizing efficiency and accountability. The efficient exchange of data also provides for security of transport information and for transfer of information related to security against terrorism as well as theft and traditional contraband. It is imperative for standards development organizations to address and facilitate the handling of these needs.

Consequently, Technical Committee ISO/TC 204, *Intelligent transport systems*, seeks to fill a role focusing on data exchange needs for the international supply chain, relating specifically to haulier transportation. This includes data needs for the interface with all modes of transportation, since freight movement normally includes interfaces with other modes of transportation. Those needs are essential for transport information and control systems. Additionally, the need for a standard method of interoperability between data exchange standards is critical for seamless movement within and between modes of transportation, the businesses those modes represent and the authorities requiring specific regulatory information. Some international shipments are carried out entirely by road conveyances, but most begin and end with haulier service and travel by other modes during the shipment. This document focuses on haulier transport interfaces through the supply chain, or those data items that deal specifically with the key transport information critical for getting the goods to the marketplace without delays related to data sharing.

The data structure and formats of interfacing modes need to accommodate each other to ensure efficiency and security from end to end. Truck, rail, air and ocean transport are vital components of intermodal, international shipping. It is recognized that a robust intermodal standard needs to include interface connections to these modes; this has been proven through demonstration tests. Research and tests carried out in the US motivated the use of a truck-air-truck supply chain, for example.

Preliminary investigations suggest that there is no single organization responsible for transport data standards through the intermodal supply chain. To achieve a coherent set of transport standards requires coordination among the various international organizations working on component parts of these international standards.

The vision expressed in this document is to allow electronic data sharing through many-to-many relationships between supply chain partners which can help ensure sustaining legacy standards as needed. This includes B2B (business to business) relationships as well as B2G (business to government) relationships, G2G (government to government) relationships, and G2B (government to business) relationships. Government relationships are also known as administrative relationships. One-to-one relationships require only two partners to have standard data relationships with each other and can require other partners to adopt the standards of the original two. Alternatively, they can require third-party translators, which increases costs in the transport of goods. Relationships that allow all parties in the supply chain to share data equally, for business as well as regulatory purposes, is the focus of this document.

This document builds on ISO 24533-1:—[2)], which focuses on road transport information exchange methodology and interoperability. ISO 24533-2 (this document) is designed to help implement the transport features of ISO/IEC 19845, but it lacks the details of a common reporting system like the single window (SW, a trade facilitation concept including standardized information elements, operating nation by nation) or the common reporting system (CRS).

The common reporting system (CRS) was initially developed as one of the European Union's freight demonstration projects under E-Freight. As such it only had applicability to the EU Member States. Under this document it provides a single, 'standardized' data model for reporting to authorities in compliance with international regulations across all transport modes. It was designed from first principles and therefore does not inherit the inefficiencies of transferring paper systems or mode-specific practices to an electronic system and has no modal or sectoral biases.

2) Under development. Stage at the time of publication: ISO/AWI 24533-1:2022.

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1 Scope

This document specifies the data communication concepts applicable to the data requirements of the transport community. It also includes the regulatory authorities related to freight and its intermodal transfer to participate in common reporting.

Data communication concepts include information entities (data elements), aggregated/associated information entities (groups of data elements) and messages that comprise information exchanges at transport interfaces along the chain of participants responsible for the delivery of goods from the point of origin through to the final recipient. This includes all transport entities carrying the cargo as well as the documents and information required to facilitate the cargo movement.

This document focuses on a single "thread" of the overall end-to-end supply chain. It includes motor transport data needs within the international supply chain to satisfy the requirements of both businesses and governmental organizations on business to business (B2B), business to government (B2G), government to business (G2B) and government to government (G2G) relationships. This document is applicable to shipments that originate in one country and terminate in another. It can also be applied to shipments that originate and terminate in a single country. This document is applicable to freight movements that interface with other modes and incorporates interface requirements set for those other modes.

This document is also designed to incorporate the elements of the Govcbr message (a message developed by the World Customs organization, WCO, that can facilitate data exchange but can potentially not apply to all parties throughout the supply chain) and have them apply across the whole supply-chain, on a global basis.

This document does not constrain the requirements of customs, regulatory and safety bodies at border crossings but does include the data elements likely to be required by customs authorities and other governmental bodies within a single window environment or within a port community system environment.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/