



BSI Standards Publication

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

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**National foreword**

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

*Systemes intelligents de transport — Échange d'informations  
électroniques facilitant le mouvement du fret et son transfert  
intermodal — Méthodologie pour l'échange d'informations concernant le  
transport routier*





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## Contents

Page

<b>1</b>	<b>Scope</b> .....	<b>1</b>
<b>2</b>	<b>Terms and definitions</b> .....	<b>2</b>
<b>3</b>	<b>Symbols and abbreviated terms</b> .....	<b>7</b>
<b>4</b>	<b>Intermodal freight context</b> .....	<b>8</b>
4.1	General.....	8
4.2	Intermodal freight — Road transport component concept of operations.....	9
4.2.1	Objectives.....	9
4.2.2	Overview of freight physical flow.....	10
4.2.3	Information exchange transactions.....	12
4.2.4	Operational scenario.....	13
4.2.5	Maintaining the operational scenario.....	23
4.3	Intermodal freight — Road transport component use cases.....	23
4.3.1	Business domain.....	23
4.3.2	Business requirements.....	25
4.3.3	Global context use case — Ship (Transport interpretation) — Level 1.....	25
4.3.4	Use case elaboration — Initiate consignment transport — Level 2.....	27
4.3.5	Use case elaboration — Export — Level 2.....	32
4.3.6	Use case elaboration — Import — Level 2.....	33
4.3.7	Use case elaboration — Transport consignment abandonment — Level 2.....	34
4.3.8	Use case elaboration — Conclude consignment transaction — Level 2.....	35
<b>5</b>	<b>Information modelling</b> .....	<b>36</b>
5.1	Core components.....	36
5.2	OASIS Universal Business Language.....	38
5.2.1	UBL Core Component and document library.....	38
5.2.2	Applying UBL to intermodal freight movement.....	38
5.3	The UBL transportation status document type.....	39
5.4	Customizing UBL document types.....	40
5.4.1	Creating ITS transportation document assembly models.....	40
5.4.2	Creating ITS transportation XML schemas.....	41
<b>6</b>	<b>Code lists</b> .....	<b>41</b>
6.1	UBL code list values and code list schemas.....	41
6.2	ITS transportation status code lists and code list schemas.....	42
<b>Annex A</b> (informative)	<b>Governance in the context of intermodal electronic information exchange using UBL/XML</b> .....	<b>43</b>
<b>Annex B</b> (informative)	<b>Core component types</b> .....	<b>44</b>
<b>Annex C</b> (informative)	<b>Document assembly model for a representative ITS transportation status document</b> .....	<b>48</b>
C.1	Main document assembly model.....	48
C.2	Common document assembly models.....	49
<b>Annex D</b> (informative)	<b>XML schema for an ITS transportation status document type</b> .....	<b>64</b>
<b>Figure 1</b>	<b>Information exchanges at intermodal interface</b> .....	<b>1</b>
<b>Figure 2</b>	<b>Simplified depiction of physical freight flow for time-sensitive freight</b> .....	<b>11</b>
<b>Figure 3</b>	<b>Information exchanges in a generalized "Truck-Air-Truck" supply chain</b> .....	<b>21</b>

Figure 4 – Use Case Diagram – Ship (Transport Interpretation).....	26
Figure 5 — "Transport Event" ABIE with BBIEs and ASBIEs .....	37
Figure 6 — Primary transport ABIEs and their associations .....	40

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directive – Part 2.

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.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of normative documents:

- an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;
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An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

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.

ISO/TS 24533 was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*.

## Introduction

Seamless exchange of accurate, complete, and timely data at transportation hand-offs has always been important for efficiency and accountability. There is also an understanding of needs 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 dealing with these needs.

ISO/TR 14813-2:2000, 7.4.1 identifies a commercial vehicle functional domain:

"These transactions maintain the TICS information about a shipment from the time of the order by the consignor to the reception of goods by the consignee. The key TICS transactions are to provide registers of service providers and to enable the goods to be tracked throughout intermodal journeys."

Consequently, Technical Committee ISO/TC 204, *Intelligent transport systems*, seeks to fill a niche focusing on data exchange needs for the international supply chain that relate specifically to motor carrier transportation including 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.

Some international shipments are carried out entirely by highway mode, but most begin and end with motor carrier service and travel by other modes in the course of the shipment. This Technical Specification focuses on motor carrier transport interfaces through the supply chain, and those data items that deal specifically with the key pieces of transport information critical to getting the goods to the marketplace without delay related to data sharing. Therefore, the interfacing modes' data structure and formats must accommodate each other to assure efficiency and security from end to end. Truck, rail and ocean transport are vital components of intermodal, international shipping. It is recognized that a robust intermodal standard must include interface connections to all of these modes, and may need to be proven through demonstration tests. Research and tests carried out in the US motivated the use of a truck-to-truck supply chain (shown in Figure 3). 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. TC 204 has advanced the idea of close coordination among other appropriate ISO Technical Committees, OASIS, IATA, IEC, CEN, UN Centre for Trade Facilitation and Electronic Business, and the World Customs Organization. Contact has been made and interest has been expressed in cooperating on the development of intermodal data exchange standards that fully cover the supply chain. This Technical Specification is a preliminary step towards coordinating between the various standards organizations.

The vision expressed in this Technical Specification is to allow electronic data sharing through many-to-many relationships between supply chain partners which will help ensure sustaining standards. One-to-one relationships require only two partners to have standard data relationships with each other, and could require other partners to adopt the standards of the original two or require third party translators, which increases costs in the transport of goods. The many-to-many relationships also ensure that data initiated by the first partner will allow other partners equal access and can also help customs agencies to access data early in the progress of goods coming through the supply chain.

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

## 1 Scope

This Technical Specification specifies the data concepts applicable to the movement of freight and its intermodal transfer. These data 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 as presented in Figure 1. This Technical Specification 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. This Technical Specification is applicable to shipments that originate in one country and terminate in another. It may also be applied to shipments that originate and terminate in a single country. This Technical Specification is applicable to freight movements that interface with other modes and incorporates requirements set for those other modes.

This Technical Specification 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. The same is true with the requirements of any particular mode of operation.

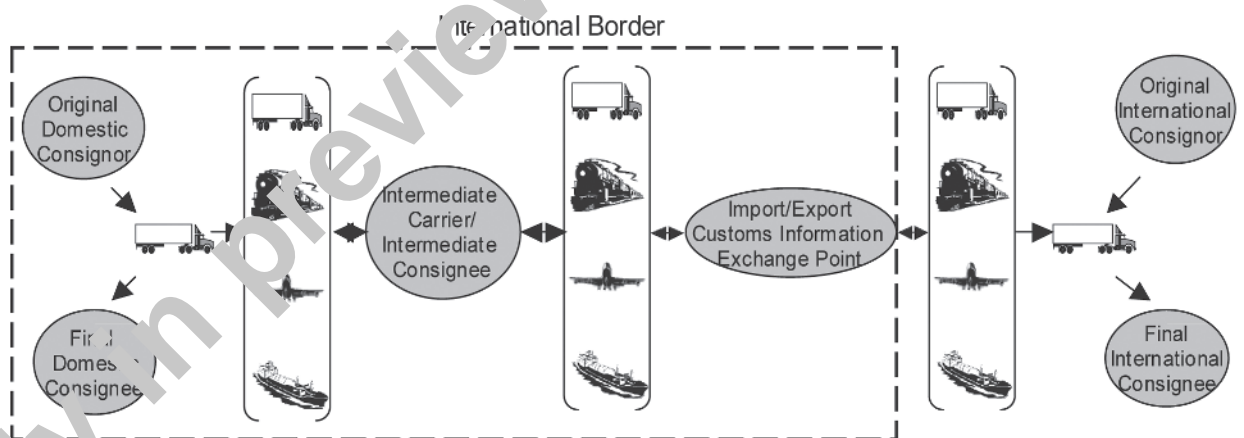


Figure 1 — Information exchanges at intermodal interface

NOTE This thread may be generalized to address the various combinations of segments that occur in the global supply chain while focusing on the information exchange at the interchange points.