INTERNATIONAL STANDARD

ISO
26683-3

Intelligent transport systems — Freight land conveyance content identification and communication —

Part 3:
Monitoring cargo condition information during transport

Systèmes intelligents de transport — Identification et communication du contenu des marchandises transportées par voie terrestre —

Partie 3: Suivi des informations sur l'état de la cargaison durant le transport

Contents

Page

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*.

A list of all parts in the ISO 26683 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.

Introduction

This document establishes requirements for the transport and condition monitoring of agri-food and perishable goods through the applications, models, processes, and information bundles established in ISO/IEC 19845. It also focuses on both domestic and cross-border consignments and is mainly concerned with reliability, safety, and freshness of those goods as they move through the supply chain. Whenever the term "this document" is used, the reference is to ISO 26683-3.

The methods described in ISO/TS 24533 and ISO/TS 17187 are included by reference. Both Technical Specifications are being revised to international standard status, to be balloted in 2019.

Agri-food and perishable goods has seen the ratio of rejection at custom inspection increasing recently. In the case of US imported seafood inspection, where they inspected 1 % of the imported seafood, the rejection rate was up to 51 %. The reasons for rejection were disease and insect pest detection, residual chemicals exceeding acceptable limits, or heavy metal content exceeding permissible levels. In some countries, up to 60 % of agricultural and fisheries goods in transport have to be discarded, lost or wasted. Additionally, mislabelling of raw materials is possible and can cause health problems.

For safety and freshness, end users (consumers) want to have a comprehensive record of the consignment's status and its transportation history, both for the origin of raw material as well as the final product. Consumers and regulators want to know whether or not the original produce or its final product may still have other types of contamination or degradation. A transport information model and related business processes are needed to provide a foundation to track transport activities.

The transport information model prescribed in this document is focused on the movement of goods by service provider by air, sea, road, and railway. The expectation is that the movement and storage of agri-food and perishable goods can be checked for cargo status and condition at any point on its path to its end destination.

Therefore, additional features are necessary to ensure reliable food product and transparency on transport processes between transportation events (or transport nodes). Based upon the ISO/IEC 19845 library of documents (messages) and information elements, this document establishes an enhanced model containing status information for transporting and storing agricultural food and perishable goods, including historical information and transaction information.

The basis for this document has its foundation in ISO/IEC 19845:2015, ISO/TS 24533, ISO/TS 17187 and ISO 15638-17.

Intelligent transport systems — Freight land conveyance content identification and communication —

Part 3:
Monitoring cargo condition information during transport

1 Scope

This document establishes requirements for transport and condition monitoring of transported consignments such as agri-food and perishable goods, through applications, models, processes, and information bundles. This document applies to both domestic and cross-border transport of transported consignments, and incorporates the methods described in ISO/IEC 19845, ISO/TS 24533 and ISO/TS 17187 which are transport domain specific, as discussed in the Introduction. Specific extensions include additional actors in the model related to, in particular, the agriculture transport sub-domain, with extended specific processes, and additional information items and/or information bundles for consignment conditions.

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/IEC 19845:2015, *Information technology — Universal business language version 2.1 (UBL v2.1)*

3 Terms and definitions

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

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

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

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

3.1
agri-food business
business of producing food agriculturally

3.2
agroterrorism
agriterrorism
malicious attempt to disrupt or destroy the agricultural industry and/or food supply system of a population through the malicious use of plant or animal pathogens to cause devastating disease in the agricultural sectors

3.3
business area
category of decomposable business areas or *process areas* (3.17) (on the lowest level of a business area hierarchy)

Note 1 to entry: This means that a business area collates either other business areas, process areas, or business process use cases