
**Intelligent transport systems —
Cooperative ITS —**

**Part 1:
Roles and responsibilities in
the context of co-operative ITS
architecture(s)**

*Systèmes intelligents de transport — Systèmes intelligents de
transport coopératifs —*

*Partie 1: Rôles et responsabilités dans le contexte des ITS fondés sur
l'architecture*

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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 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.

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

This first edition cancels and replaces ISO/TS 17427:2014 which has been technically revised.

A list of all the parts in the ISO 17427 series can be found on the ISO website.

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Introduction

Cooperative Intelligent Transport Systems (C-ITS) (3.8) are a promising advancement of Intelligent Transport Systems (ITS). Numerous applications, made possible only, or most efficiently, by the cooperation of *actors* (3.2) (other vehicles, the *infrastructure* (3.12), *service* (3.25) providers, even bystanders), are being devised that open up new possibilities to make traffic safer, more efficient and smarter. Technologies are being developed and improved to realize and support those new *services* and *applications* (3.3). But, to finally implement *C-ITS* and to achieve the benefits of greater safety and better mobility, multiple *actors* will have to cooperate with each other in a completely new way. *Actors* that have to date worked in isolation, i.e. in so called “silos”, will have to find a way to achieve these possibilities. New *actors* may also be required for the provision of some *services*. This requires a clear definition and assignment of *behaviours* (3.4), *responsibilities* (3.21) and liabilities. Therefore a general, abstract organizational architecture with the description of the single *roles* (3.22), their *behaviour*, and the corresponding *responsibilities*, is an essential prerequisite for the deployment of *C-ITS*.

The organizational relationships with the description of roles and responsibilities, is a crucial part of the whole *C-ITS* architecture. *C-ITS* is not an objective in itself, it is a means to achieve the potential of service provision through the cooperation of *actors* involved in the ITS sector. The architectural viewpoint comprising the organizational architecture has extensive influences on the deployment and implementation of *C-ITS*.

This document describes the high level roles and responsibilities of a *C-ITS* service provider and aligns it with other *C-ITS* standards and specifications.

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Intelligent transport systems — Cooperative ITS —

Part 1:

Roles and responsibilities in the context of co-operative ITS architecture(s)

1 Scope

This document contains a detailed description of the (actor invariant) *roles* (3.22) and *responsibilities* (3.21) required to deploy and operate *Cooperative-ITS (C-ITS)* (3.8). The organization/organization of actors / roles described in this document are designed to be appropriate for any fully operational system that uses the *C-ITS* concepts and techniques in order to achieve its service provision. This document is presented in terms of an organizational or *enterprise viewpoint* (3.10) as defined in ISO/IEC 10746-1.

This document is for all types of road traffic of all classes, and for any other actors involved in the provision of applications and services which use *C-ITS* techniques to achieve service provision. The description of roles is technology agnostic and, in terms of *C-ITS*, agnostic in respect of communication modes and embraces vehicle-vehicle communications, vehicle-infrastructure communications and infrastructure-infrastructure communications.

This document provides a methodology for the identification of service specific roles and their corresponding responsibilities based on a process oriented approach. Additionally, the methodology is used to identify the roles and responsibilities for *C-ITS* in general. Both the methodology as well as the roles and responsibilities for *C-ITS* are deduced from ISO/IEC 10746-1, ISO/IEC 10746-2, ISO/IEC 10746-3, the reference model of Open Distributed Processing. Open Distributed Processing offers five viewpoints of which the *enterprise viewpoint* corresponds with the organizational architecture and its *roles and responsibilities*.

To limit the scope of the document to the core of *C-ITS*, the *roles* are separated into external and internal. Considered to be internal are all roles that are highly relevant for the purpose of achieving service provision by means of *C-ITS*. Considered to be external are all roles involved in *C-ITS*, but not set up only for the purpose of *C-ITS*.

This document provides a description of a high-level architectural viewpoint on *C-ITS*. It is designed to be used as a blueprint when implementing service provision systems that use *C-ITS*, and the corresponding organizational structures. The characteristics of *C-ITS* entail a huge number of data/information exchanges. Therefore the implementation stringently respects privacy and data protection as it is defined in ISO/TR 12859 and in national laws and regulations (where instantiated). Privacy and data protection affects all roles defined in this document due to these characteristics and all actors occupying roles in *C-ITS* respects the corresponding standards and regulations.

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/TR 12859:2009, *Intelligent transport systems — System architecture — Privacy aspects in ITS standards and systems*

ISO 14817-2, *Intelligent transport systems — ITS central data dictionaries — Part 2: Governance of the Central ITS Data Concept Registry*