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Road vehicles — Ergonomic aspects of transportation and control systems — Dialogue management principles and compliance procedures

Véhicules routiers — Aspects ergonomiques du transport et des systèmes de commande — Principes de gestion du dialogue et procédures de conformité



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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).

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For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 22, *Road vehicles*, Subcommittee SC 39, *Ergonomics*.

This second edition cancels and replaces the third edition (ISO 15005:2002), which has been technically revised. The main changes compared to the previous edition are as follows:

- improvements were made to the clarity of the text and references were updated; and
- a section related to “learnability” was added as 5.4.

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Introduction

This document deals with the ergonomic design of transport information and control systems (TICS) and provides general ergonomic principles for their dialogues, independent of any specific dialogue techniques.

The utmost care needs to be taken in the design and installation of TICS equipment in order to ensure that it does not impair the driver's safe control of the vehicle. This is in recognition of the fact that the driving environment has variable conditions, such as road surface, visibility, weather, ambient lighting and traffic conditions.

Dialogue management principles for TICSs are characterized by the need to take into account the following:

- TICSs are intended for use in a moving vehicle.
- TICSs help functions are appropriate to a moving vehicle.
- TICS dialogues take place in a constantly changing vehicle environment.
- TICS technologies are suited to that environment.
- TICS dialogues include the driver's vehicle-control actions in response to the TICS.

The driver of a vehicle equipped with a TICS device is responsible for the safety of the vehicle, its occupants and other road users. A dialogue therefore takes into account the driver workload as a whole, including the cognitive, perceptual and physical tasks associated with driving, so that there will be no impairment of the safe and effective operation of the vehicle. An important objective is to ensure effective and efficient TICS operation while respecting the in-vehicle environment and recognizing the paramount importance of the primary driving task.

In addition to the recommendations and requirements related to the principles it presents, this document also gives the conditions for compliance. As the manner in which each dialogue principle is applied will depend on the particular characteristics of the TICS function and the specific dialogue technique used, application examples have been provided.

The ultimate beneficiary of this document will be the TICS end-user: the driver of the road vehicle. It is the needs of the driver that have determined the ergonomic requirements included by the developers of this document.