

**Road vehicles - Measurement of driver
visual behaviour with respect to transport
information and control systems - Part 1:
Definitions and parameters**

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behaviour with respect to transport information and
control systems - Part 1: Definitions and parameters

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 15007-1:2002 sisaldab Euroopa standardi EN ISO 15007-1:2002 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.10.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 15007-1:2002 consists of the English text of the European standard EN ISO 15007-1:2002.</p> <p>This document is endorsed on 18.10.2002 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This part of ISO 15007 defines key terms and parameters in the analysis of driver visual behaviour. It can be applied in environments from real-world trials to laboratory-based driving simulator studies.</p>	<p>Scope:</p> <p>This part of ISO 15007 defines key terms and parameters in the analysis of driver visual behaviour. It can be applied in environments from real-world trials to laboratory-based driving simulator studies.</p>
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ICS 13.180

Võtmesõnad:

English version

Road vehicles

**Measurement of driver visual behaviour with respect to
transport information and control systems**

**Part 1: Definitions and parameters
(ISO 15007-1 : 2002)**

Véhicules routiers – Mesurage du comportement visuel du conducteur en relation avec les systèmes de contrôle et d'information sur le transport – Partie 1: Définitions et paramètres
(ISO 15007-1 : 2002)

Straßenfahrzeuge – Messung des Blickverhaltens von Fahrern bei Fahrzeugen mit Fahrerinformations- und -assistenzsystemen – Teil 1: Begriffe und Parameter
(ISO 15007-1 : 2002)

This European Standard was approved by CEN on 2001-03-01.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Management Centre: rue de Stassart 36, B-1050 Brussels

Foreword

International Standard

ISO 15007-1 : 2002 Road vehicles – Measurement of driver visual behaviour with respect to transport information and control systems – Part 1: Definitions and parameters,

which was prepared by ISO/TC 22 'Road vehicles' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 278 'Road transport and traffic telematics', the Secretariat of which is held by NEN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by September 2002 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 15007-1 : 2002 was approved by CEN as a European Standard without any modification.

Introduction

Vision provides the primary source of information available to a driver. Information is gathered by looking at objects and events and this in turn affords control and navigation of the vehicle in the road traffic environment. Assessment of a driver's visual behaviour provides a method of quantifying the driver's visual allocation to the roadway or in-vehicle information sources.

Transport Information and Control Systems (TICS) applications for vehicles may have visual displays that can present a range of driver-selected information. If these visual displays have associated controls (e.g. to select a zoom level or menu option) then these associated hand-control activities may also be visually guided and become part of the visual behaviour associated with a display/TICS application. For this reason it may be important to consider not only the visual behaviour in relation to information display, but also the duration and frequency of glances following driver control actions.

Comparisons between separate evaluations of specific vehicle systems in different environments have been made more difficult by dissimilar approaches in experimental technique and analysis methods.

ISO 15007 has been developed to give guidance on the terms and measurements relating to the collection and analysis of driver visual behaviour data. This approach aims to assess how drivers respond to vehicle design, the road environment, or other driver-related tasks in both real and simulated road conditions. It is based on the assumption that efficient processing of visual information is essential to the performance of the driving task.

Practical assessments of drivers in real or simulated environments are conducted to quantify the allocation of visual behaviour to specified targets. It may be quantified by the location, duration and frequency of glances to a specified target in the visual scene. This approach often uses commonly available video-recording equipment. However, it does not preclude the use of more sophisticated technologies which may elicit additional driver visual behaviour information.

Results from such assessments should enable comparison of the relative influence of the TICS use with reference conditions.

1 Scope

This part of ISO 15007 defines key terms and parameters applied in the analysis of driver visual behaviour. It can be applied in environments from real-world trials to laboratory-based driving simulator studies.

Minimum requirements for reporting the results of Transport Information and Control Systems (TICS) evaluations are provided.

The procedures described in this part of ISO 15007 could also apply to more general assessments of driver visual behaviour without the introduction of TICS specific systems. The parameters and definitions described below are intended to assist development of a common source of reference for driver visual behaviour data.

Due to the limitation of visual behaviour measurement techniques, e.g. related to the effects of accommodation and adaptation of the eyes, this part of ISO 15007 does not apply to the evaluation of head-up displays.

Further guidance including the specification of analysis methodologies and results presentation for visual behaviour analysis is available in other ISO publications. Data collated and analysed in this way allow comparisons to be performed across different TICS applications and experimental scenarios.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 15007. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 15007 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 2854, *Statistical interpretation of data — Techniques of estimation and tests relating to means and variances*

ISO 13425, *Guide for the selection of statistical methods in standardization and specification*

ISO 15007-2, *Road vehicles — Measurement of driver visual behaviour with respect to transport information and control systems — Part 2: Equipment and procedures*