International Standard

ISO 13140

First edition

Electronic fee collection — Evaluation of on-board and roadside equipment for conformity to ISO 13141

Perception de télépéage — Évaluation des équipements embarqués et en bord de route quant à la conformité avec ISO 13141

PROOF/ÉPREUVE

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Foreword

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This document was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 278, *Intelligent Transport Systems,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition cancels and replaces the first edition (ISO 13140-1:2016), which has been technically revised.

The main changes are as follows:

— as a result of the withdrawal of ISO 13140-2, the title of this document has been updated.

— amendments have been made to reflect changes to ISO 13141, which makes reference to ISO 17573-3 as the primary source of data specifications;

— terms and definitions have been updated and ISO/TS 17573-2 has been included as the primary source for harmonized terminology across electronic fee collection (EFC) standards.

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

On-board equipment (OBE) that uses satellite-based positioning technology to collect data required for charging for the use of roads operates in an autonomous way (i.e. without relying on dedicated roadside infrastructure). The OBE records the amount of road usage in all toll charging systems it passes through. For this purpose, an autonomously operating OBE needs real-time and precise information about the location in which it is present. Location information is provided by satellite-based systems, optionally supported by on-board sensors. Occasionally, location information can also be provided by fixed roadside infrastructure, by means of DSRC-based localization augmentation communication (LAC).

This document specifies the process and tests for evaluation of OBE and roadside equipment (RSE) for conformity to ISO 13141.

ISO 13141 specifies requirements for dedicated short-range communication (DSRC) between OBE and an interrogator for the purpose of localization augmentation. It assumes an electronic fee collection (EFC) services architecture according to ISO 17573-1.

This document is intended to:

— assess OBE and RSE capabilities;

— assess OBE and RSE behaviour;

— serve as a guide for OBE and RSE conformance evaluation and type approval;

— achieve comparability between the results of the corresponding tests applied at different locations and at different times;

— facilitate communications between parties.