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Title: Draft BS ISO 37168 Smart community infrastructures — Guidance on smart transportation by autonomous shuttle.

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Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	

DRAFT INTERNATIONAL STANDARD

ISO/DIS 37168

ISO/TC 268/SC 1

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Smart community infrastructures — Guidance on smart transportation by autonomous shuttle

ICS: 03.220.01; 13.020.20

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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).

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This document was prepared by Technical Committee ISO/TC 268, Sustainable cities and communities, Subcommittee SC 1, Smart community infrastructures

In the development of this document, ISO Guide 82 has been taken into account in addressing sustainability issues.

Introduction

Public transport using Connected and Autonomous electric Vehicles (eCAVs) will be a solution to a range of problems, including passenger need for flexible, demand responsive transport options and a shortage of drivers in ageing societies.

5G cellular and WLAN technologies provide the necessary vehicle-to-network (V2N), vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communications that assist the navigation of autonomous shuttles.

However, eCAV shuttles that are wirelessly connected and driverless also address key environmental and road safety considerations in busy and polluted urban areas and therefore are likely to have a significant role in a future transport system. In particular, they can:

- provide comfortable and convenient transport for the young, elderly and disabled;
- reduce congestion and time lost to slow moving traffic, increasing efficiency;
- manage travel demand, relieve parking and optimise the use of road space;
- reduce carbon emissions, pollution and noise, promoting health and wellbeing;
- make cities more attractive and productive places, able to grow sustainably.

Technology that supports small autonomous vehicles for intra-city passenger transport also lends itself to local delivery services. Autonomous delivery pods are designed to carry parcels, groceries and food, making local distribution faster and more cost-efficient.

Key obstacles to the introduction of eCAV bus and delivery services include the ability to introduce autonomous vehicles among regular bus services and manually driven vehicles. Therefore, many autonomous experiments have been increasingly sophisticated shuttle services on a fixed, short routes around safe, off- and on-road spaces.

While trials and pilot schemes exist, they have not been at a scale that really demonstrate the extent to which eCAVs could form the basis of a genuine public transport service.

Nevertheless, a strategic city focus plus open innovation should form the basis of intelligent demand-responsive mobility that offers seamless journeys across multi-modal travel options that include autonomous shuttles. Key advantages of such transport systems, include:

- adaptability – eCAVs fit the environment and travel needs of passengers;
- flexible routing and demand responsive journeys;
- real time information across transport infrastructures;
- city-scale functionality and integration;
- safer and more accessible public transportation.

Rapidly developing pilot projects on eCAV shuttles can serve the development of smart transportation that help reach these goals.