TECHNICAL SPECIFICATION

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# Intelligent transport systems — Event-based probe vehicle data

*Systèmes intelligents de transport — Données de sonde du véhicule basées sur les événements*

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# Contents

Page

**Foreword** ..... **iv**
**Introduction** ..... **v**
**1 Scope** ..... **1**
**2 Normative references** ..... **1**
**3 Terms and definitions** ..... **1**
**4 Reference architecture** ..... **2**
4.1 Reference architecture for probe vehicle systems ..... 2
4.2 Extended information package for event-based probe data ..... 4
**5 Event-based probe data message** ..... **7**
5.1 Concept of core data elements (from ISO 22837:2009) ..... 7
5.2 Structure of event-based probe data message ..... 7
5.3 Timestamp ..... 8
5.4 Latitude ..... 8
5.5 Longitude ..... 8
5.6 Altitude ..... 8
5.7 Event type object ..... 8
5.8 Confidence ..... 8
5.9 System identification (optional) ..... 8
5.10 Trust value (optional) ..... 9
**6 Event type object** ..... **9**
**7 Reference event-based probe data message** ..... **10**

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# Introduction

Probe vehicle systems are being investigated and deployed throughout the world. It is expected that the number of practical systems will grow steadily over the next few years. In TC 204/SWG 16.3, probe vehicle systems and probe data have been examined, and it is concluded that in many cases communications airtime will be a scarce and expensive commodity, and therefore efficient probe data reporting systems which rely on techniques to use airtime efficiently and economically are essential. One way to accomplish this is to shift data aggregation tasks in to the probe vehicle itself. Vehicles that feature this advanced form of on board probe data processing will report information based on the occurrence of actual events as opposed to delivering a constant stream of raw vehicle probe data. Event-based probe data reporting will allow economic use of communication capacity.

As probe vehicle systems have to collect and manage probe data from a variety of vehicles from different vehicle manufacturers, the standardization of these event-based messages is essential. To do this, a common framework for event-based probe vehicle message reporting is also required.

The purpose of this project is to develop (1) a reference architecture for event-based probe data reporting within an architecture which encompasses both this function and standard probe data reporting defined in ISO 22837; (2) the basic data framework for defining event-based probe data messages; and (3) the concrete definition of these messages.

The benefits of this standardization include:

— It helps system developers and operators to specify efficient probe data collection and processing systems. It also promotes communication and mutual understanding among the developers and the operators of probe systems.

— It helps system developers who are developing probe vehicle systems to define a key tool for communications-efficient probe data systems, i.e. event-based probe data reporting.

— Probe data may be collected from various vehicles of different vehicle manufacturers. It provides a common framework for handling event-based probe data.

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