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**Economic Commission for Europe**

Inland Transport Committee

**Global Forum for Road Traffic Safety**

**Seventy-fifth session**

Geneva, 19-22 September 2017

Item 3 (c) of the provisional agenda

**Convention on Road Traffic (1968):**

**Automated driving**

**Draft terms of reference for elaboration of a non-binding  
advisory instrument dedicated to the highly automated  
and/or driverless vehicles which would serve the Contracting  
Parties to the 1949 and 1968 Conventions on Road Traffic**

**Submitted by the Chair**

## **Preamble**

As motorization grows and vehicles and technology develop, so does the system of road traffic rules necessary to regulate the increasing and changing road traffic. Given a significant trans-border dimension of transport, these domestic traffic rules are typically harmonized internationally through legally binding treaties (conventions). These conventions are constantly reviewed and periodically amended in order to keep them relevant and up-to-date.

While the process of updating the traffic rules is continuous, it appears that a turning point in this process - induced largely by technological change - is being rapidly approached. This is so because until today, traffic rules have been developed for a road use scenario, in which drivers are expected to maintain control of their vehicles, to possess specific skills and knowledge, the necessary physical and cognitive ability and be in a fit physical and mental condition. These legal provisions explicitly and implicitly assume that the driver is human, is inside the vehicle and occupies the driver's position (i.e. behind the ubiquitous steering wheel in front and having foot pedals below).

With the introduction of highly automated and driverless vehicles, this conventional scenario is likely to be substantially altered. Highly automated and driverless vehicles promise substantial safety benefits. However, because of their operation will be fundamentally different from conventional vehicles, there are a range of issues that must be addressed to ensure their safe integration with existing traffic.

## **Scope**

The Global Forum for Road Traffic Safety ( WP1) of the United Nations Economic Commission for Europe,

*Desiring* to establish uniformity in the principles relating to road traffic , in order to improve road safety at global level and facilitate international traffic,

*Noting* that the Geneva ( 1949) and Vienna ( 1968) Convention on Road Traffic have had significant bearing in the definition of domestic road traffic policies and have noticeably improved road safety ,

*Noting* the continuous progress of automotive and digital technological advances as in highly automated and driverless vehicles,

*Noting* that the above mentioned international legal instruments could not offer appropriate and timely references to rule these aspects of road traffic ,

*Recommends* Governments, in order to create a common framework and ensure road safety goals, to take into account for their national legislations, the principles incorporated in the recommendations in this Resolution.

### **General Provisions**

The Resolution R.E. XX, Principles for Safe Function of Driverless Vehicles on Roadways, is a product of the Global Forum for Road Traffic Safety for the purpose of providing non-binding guidance for the safe function of driverless vehicle on public roadways. These advisory points focus on the safe integration of driverless vehicles in traffic that includes a broad assortment of vehicle types, including a variety of conventional driver-operated vehicles, as well as pedestrians, bicyclist and other road users. This guidance is directed at the safe integration of vehicles that are entirely driverless as well as those that are partially or intermittently driverless during such times as they are being operated in full driverless mode.

The Global Forum for Road Traffic Safety maintains in its mandate the administration and the update of the 1949 Geneva and 1968 Vienna Conventions on Road Traffic Safety as well as the 1968 Vienna Convention on Road Signs and Signals. These Conventions are legally binding instruments developed by governmental contracting parties from around the globe for the purpose of establishing common roadway, vehicle and driver practices which affect road safety. These binding Conventions primarily address roadway, vehicle and driver practices associated with driver-operated vehicles and systems.

### **Requirements to be addressed in the Guidance**

The content for the envisaged non-binding advisory instrument shall focus on the operation of driverless vehicles, with reference to existing traffic rules as stipulated in the 1949 and 1968 Conventions on Road Traffic. The guidance is intended to provide practical and up –to- date recommendations for domestic governments and sub-jurisdictions and therefore will be designed to

accommodate periodic updates to reflect the emergence of new technologies or availability of new research regarding safe operation of highly automated vehicles.

### **Statement of Rationale and Justification**

While being non-binding and advisory, the following Principles for Safe Function of Driverless Vehicles on Public Roadways complement the 1949 Geneva and 1968 Vienna Conventions on Road Traffic by anticipating the widespread integration of highly automated vehicles in traffic and providing domestic government with practical advices on policies, programs and procedures that can facilitate their safe function.

### **Suggested Structure of the Guidance**

#### **Art 1**

Principles relating to the driver of a vehicle that can operate in driverless mode and can also permit driver operation of the vehicle.

*...to include : permissible driver activities, alcohol and drug impairment*

#### **Art 2**

Principles relating to driver licensing and training

*...to include: Advice on the need for a licensed driver in a vehicle that can operate in driverless mode or by driver control, and advice on licensing requirements and examinations.*

#### **Art 3**

Principles relating to integration of driverless vehicles in traffic

*...to include: Advice on vehicle compliance with traffic code, vehicle registration, factors that would affect the predictability of self-driving vehicle movements by other road users.*

#### **Art 4**

Principles relating to the interaction of driverless vehicles and public safety or emergency officials.

*....to include: Advice regarding the ability to obtain ownership, registration and other relevant pertinent information from a driverless vehicle in the case of a crash or other traffic accident, even if there is no passenger on board.*

#### **Art 5**

Principles relating to the education of consumers and other road users about the operation of driverless vehicles .

*...to include: Advice on the need for training of pedestrians, bicyclists and vulnerable road users about safe interaction with driverless vehicles in traffic.*

**Art. 6**

Recommendations on the collection and access of data concerning the safe operation of driverless vehicles

*...to include: Advice concerning recording and accessibility of data on safety-related incidents for use of public safety officials.*

**Art. 7** Other measures and policies to optimize the road safety benefits of driverless vehicles

*...to include: Advice concerning policies and programs (e.g., incentives or road use rules) to accelerate usage of driverless vehicles and the consequent realization of safety benefits.*

**Indicative procedure to develop the non-binding instrument**

The Global Forum (WP.1) mandates the Bureau , and an informal group of experts , with the optional external support of a qualified lawyer and/or consultant, to elaborate draft guidance provisions and a supporting policy paper . The Global Forum (WP.1) will discuss these draft provisions and policy papers and endorse the final text of the provisions to be included in the non-binding instrument.

In order to facilitate the development process , the Global Forum (WP.1) will organize round tables or listening sessions involving interested stakeholders including both public and private sector as well as academia. The aim of these round tables and listening sessions will be gather information, research findings, and viewpoints from affected parties such as emergency response officials, and to identify optimal safety advice.