



MINISTERIO
DEL INTERIOR



SUBDIRECCIÓN GENERAL DE
GESTIÓN DE LA MOVILIDAD

SUMMARY OF SPANISH POSITION ON AUTONOMOUS VEHICLES
ROAD SAFETY VEHICLE ASSESSMENT

GEAR 2030 Working Group 2 – Highly automated and connected vehicles
DRAFT REPORT
Project Team 1 – Policy and regulatory issues



1. INTRODUCTION

The current legislation on vehicles' assessment in Spain is totally related to the conditions and requirements that every vehicle must fulfill as regulated in Directive 2007/46/EC establishing a framework for the type approval of motor vehicles and their trailers, among others. This Directive refers exclusively to conventional vehicles as defined in Annex II of the abovementioned Directive.

The main objective of the legislation on the approval of vehicles is to ensure that new vehicles, components and separate technical units put on the market provide a high level of safety and environmental protection and with the subject of facilitating their registration, sale and entry into service within the Community.

The latest advancements in relation to software and vehicle capabilities to assume driving tasks, even a complete control and operation of all maneuvers imply that the traditional conception of a natural person driving a machine will no longer be the photo on our roads. Instead, the position of the driver will be taken by the systems of the vehicle, especially software.

This reality supposes a clear interference of two typical regulations, type approval and periodical inspections carried out during the life of the vehicle on one side and on the other side, the requirements concerning driver license and traffic rules. This situation entails two different but convergent issues:

- Firstly, current regulations on vehicles focus heavily on the admittance of vehicles. Every aspect and condition is defined and set in law, sometimes even what kind of materials a manufacturer has to use with the premise that a vehicle passing the admittance will stay the same its whole lifetime. Additionally, Periodical Technical Inspections (PTI) check the main conditions in order to evaluate vehicle's roadworthiness. With the exponential increase of software, software updates will become normal and even daily, a vehicle will get an "ever changing" system. Obviously, nowadays regulations can't deal with this.



- Secondly, as the vehicle will assume at least the tactical and operational driving tasks¹, it should be ensured that systems operate in total compliance with law and, specifically, with traffic rules. Furthermore, vehicles will have to develop and get capable of safely maneuvering in risky and complex scenarios.

Those two conditions will involve the necessity of assessing the systems of the vehicle that are in control of all or part of the driving tasks.

2. DESCRIPTION OF VEHICLE ASSESSMENT

To ensure that capabilities of automated vehicles fulfilled all requisites in relation both to technical and to road safety issues, DGT will set the conditions and requirements for automated systems in national legislation, mainly in the Code for Vehicles.

The provisions will be focused on vehicle performance while operating on the roads under the light of road safety. Bearing in mind this general premise, the main principles will be:

- Spain adopts the levels of automation and related terms (ODD, OEDR, DDT, etc) defined by SAE in the document **SAE J3016** *Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles*.
- Provisions will apply to both automated systems' original equipment and to replacement equipment or updates (including those affecting software) to automated systems.
- Vehicle manufacturer shall provide a certification that can be issued by an independent entity previously accredited by DGT or by the manufacturer itself, in which the following requirements and conditions must be stated:
 1. Identification of ODD, Operational Design Domain(s), in which the vehicle is designed to operate safely.

¹ http://standards.sae.org/j3016_201401/



2. Determination and definition of the capabilities in relation to OEDR, Object and Event Detect and Response with respect to full compliance with road traffic safety rules and maneuvers, behaviors and conducts in accordance to the provisions set out in Traffic Legislation².
3. Description of previous testing made to the automated driving system. This testing should comprise all possible and different combinations of ODD and OEDR and can be based on real testing on roads or on virtual recreation on a simulator.
4. Short explanation about cyber-security and HMI features.

² https://www.boe.es/legislacion/codigos/abrir_pdf.php?fich=020_Codigo_de_Trafico_y_Seguridad_Vial.pdf