# 74th session of the Global Forum for Road Traffic Safety (WP 1)

Point 3.c of the provisional agenda
Convention on Road Traffic (1968): Automated driving



#### Joël VALMAIN

Adviser for European and International Issues to the Interministerial Delegate for Road Safety, Vice-Chair of WP 1 and Chair of the IWG-AD

## Vienna Convention on road traffic: 8 November 1968 Geneva Convention on road traffic: 19 September 1949

#### Annotated agenda: Point 3.c

- The Chair of IWG-AD invited to provide information on the Group's progress (Informal document No. 2);
- in particular, on the Group's work whether the "remote parking function" is consistent with the Convention, i.e. can a driver exercise the control over the vehicle from outside of it;
- whether a driver could engage in other activities when vehicle is driven by systems;
- present the Group's work on automated systems to be used during traffic congestion and on automated functions to be used on motorways (with and without lane changes);
- WP.1 will be invited to take note of IWG-AD assessment and to discuss in detail "draft common interpretation on what is and what is not allowed by the Convention"



Vienna Convention on road traffic: 8 November 1968 Geneva Convention on road traffic: 19 September 1949

#### Annotated agenda: Point 3.c

In doing so, WP.1 will seek consensus on the common interpretation of the recent amendment to Article 8, 1968
 Convention on Road Traffic;

In addition, WP.1 will be invited to initiate substantive discussion on a potential process to create an ancillary legal instrument dedicated to highly automated and/or driverless vehicles which would serve the Contracting Parties to 1949 and 1968 Conventions on Road Traffic.



Vienna Convention on road traffic: 8 November 1968 Geneva Convention on road traffic: 19 September 1949

- Informal working group on automated driving (IWG-AD) set up by WP 1 in October 2015 during its 71st session.
- 6 meetings since then; out of them 2 meetings since the last WP 1 session with the mandate recalled in the previous slides;
- Madrid (Spain) on 20th of December 2016 and Berlin (Germany) on 9th and 10th of February 2017;
- Main objectives namely in the last meetings:
  - 1) to produce an informal document (n°2);
  - 2) what is allowed and what is not allowed in the Convention: common interpretation/reading/understanding;
  - 3) both Conventions should be dealt with in the same way;
  - 4) remote control parking;
  - 5) automated driving functions in traffic congestion and on motorways;
  - 6) consequences for the driver, i.e. other activities or not.



### **Overarching principles**

- Upcoming automated support systems and driving functions in vehicles to be taken into account within the goals of WP1 regarding road safety and international traffic rules.
  - The analysis of IWG-AD will cover both the Geneva and Vienna conventions, taking different wording of both conventions into account.
- The present wording an phrasing of both Conventions are not conclusive and equal, which requires additional explanation, especially regarding new developments described, later referred to as common reading/understanding or guidance.
- The role of the driver in traffic and the behaviour of the vehicle will increasingly have a close relation with each other. In vehicle systems must therefore also be able to support the safe use of the vehicle in traffic.
- The attendance and position of the driver is related to and has to be in line with the in vehicle systems and functions for the safe use of driving.



#### 1) Informal document n°2

- What are we talking about?
- Advanced Driver Assistance Systems (ADAS) versus Automated Driving Functions (ADF);
- Overarching principles: adaptation of the driver to the degree of automation of the driving tasks and the use of them by the driver;
- Common understanding of both Conventions for technologies (ADAS and ADF) discussed in WP 29;
- Draft guidance on the role of the driver and compliance with both Conventions;
- GRFF-ACSF categories (work done in WP 29), A to E;
- General conclusions



#### 2) and 3) What is allowed by both Conventions?

- Articles 8 of the Conventions, Article 8 (§6) of the Vienna Convention and Article 10 of the Geneva Convention are written in the same spirit;
- Agreement among the group members: since the Vienna Convention amendment can be seen as a clarification, the way it will be understood should also apply to the Geneva Convention;
- Agreement on the wording: common "understanding" instead of common "interpretation". WP 1 can do it as being the only UNECE body with the mandate to manage those Conventions;
- Agreement on a common understanding: not only ADAS are concerned in the Conventions, but ADF (Automated Driving functions) as well, namely technologies which are being discussed in WP 29, with a focus on those close to be deployed;
- and all this with the aim to improve road safety.



#### 4) Park assist and Remote control parking

- Park assist with the driver in the car, seated behind the wheel;
- Remote control parking, with the driver outside of the vehicle: very low speed = less than 10 km/h, the driver close to the car = maximum 6 meters;
- Press continuously a button of the remote device, otherwise the car stops immediately (the same if the driver is too far from the car);
- If it is a smart hand held device, no incoming call or message shall negatively affect the manoeuvre;
- In line with both Conventions.



#### 5) ADF on motorways

- Forthcoming new technologies: Lane keeping assist + Automated lane change functions;
- Automated lane change function which does not require the confirmation of the driver, provided he remains "vigilant", is in line with both Conventions;
- The same obviously applies regarding other automated lane change functions which request the confirmation of the driver;
- Anyway regarding those functions, the driver has always priority on them in case he would like to take over;
- Information of the driver shall be done: by whom and when? Maybe in the future, the driver's training provisions would need to be adapted and the driving licences issuance system would need to follow that evolution.



#### 6) Consequences for the driver (1)

Where the functions being used in the vehicle do not require the driver to perform the dynamic driving task, but do require him to be available to respond to takeover demands, the Conventions do not prohibit the driver from performing other activities, so long as these activities:

- do not prevent them from responding to takeover demands, and
- are in line with the intended use of the automated driving function
  - The application of this principle is however subject to other developing international (for example, though WP29) and domestic regulations where necessary.
  - Where the functions being used in the vehicle do not require the driver to perform the dynamic driving task, nor to respond to takeover demands, then the Conventions should not prevent the driver from performing other activities.



#### 6) Consequences for the driver (2)

- Remote control parking: the driver is always in control; in case of any problem the vehicle stops, but the driver, even being outside of the vehicle, is controlling the car with the remote device and monitoring the environment as well, so that no other activity is possible;
- Automated lane change function which does not require the confirmation of the driver, provided he remains "vigilant", does not forbid the driver to do other activities, as described in the previous slide n° 10;
- For other automated lane change functions which require the confirmation of the driver (he is in fact sharing the dynamic driving task with the automated driving functions of the system): he is thus in the situation where he shall minimize any other activity;



#### Fully automated or autonomous driving, and "driverless" vehicle

- Too quickly discussed in the last meeting in Berlin;
- Autonomous individual cars not foreseen immediately, but autonomous shuttles/small buses/buses will soon be on the roads;
- No agreement on this issue among IWG-AD members;
- Some members wish to start envisaging an amendment of both Conventions (still problematic for the Geneva Convention) or a specific Protocol/Treaty/Convention addressing this issue of "Autonomous Driving" where there is no driver any more and where any human being in the vehicle is deemed to be a passenger;
- Some members are of the opinion that it is difficult (even impossible) to draft a new regulation until this technology is more mature and ready to be deployed;
- This issue shall be discussed quickly in the next IWG-AD meeting more in depth with a kind of guidance about the procedure to go forward.



#### **General conclusions**

- To be written down in the 74th WP 1 session report that :
- 1) Both Geneva and Vienna Conventions are to be understood in the same way regarding the driver's role;
- 2) Both Conventions already can be understood as allowing of course ADAS, but ADF as well;
- 3) ADF that are already laid down in the Technical UNECE Agreements or on the way to be accepted, or still discussed in WP 29;
- 4) Except in the circumstances laid down in slide n° 10, the driver has to minimize any other activity;
- 5) WP 1 delegates urge IWG-AD members to work in depth on full automation or autonomous driving with a view to come in a next WP 1 session with proposals solving the problems.



# Thank you for your attention

