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**Informal paper from Sweden to the WP.1 meeting
in May Impact Assessment**

Submitted by Sweden

This informal paper is an Impact Assessment about the question from WP.1 to IGEAD to consider the question of activities other than driving undertaken by the driver in a vehicle when its automated driving system is engaged.

Impact assessment of supporting a sustainable transport systems and the ITC-strategy until 2030 thorough WP.1 question to IGEAD about activities other than driving undertaken by the driver in a vehicle when its automated driving system is engaged

What is the problem and why is it a problem?

The transport sector is rapidly becoming connected, digitalized and automated, a progress which is supposed to support sustainability. The technical development of vehicles with automatic driving systems that take over an increasing part of the driver's tasks is in fast progress, as is the development of business models and services where automated vehicles are included as part.

The national and international regulations in the field of transport have mainly been introduced during a time when all driving of vehicles was done manually, they are therefore not adapted to high or fully automated driving systems and autonomous vehicles. In addition, there are substantial differences in how the regulation has developed in the various jurisdictions for automated driving systems and autonomous vehicles, so as a first step the most appropriate and helpful way of WP.1 towards an harmonization was to amend the Vienna Convention on Road Traffic to be one that enabled countries to make their own domestic legislation governing operation, as well as vehicle standards if they found this necessary, so alignment among them regarding outcomes remains a necessary goal.

Some contracting parties (CP) still lack support from international legal instruments as resolutions, decisions and other formal expressions of the opinion or will of United Nations organs, this hinder a harmonized introduction of automated vehicles and by this also delay the needed worldwide development towards sustainability. To support an introduction of safe automated driving systems and autonomous vehicles in public transport and by this take step towards better road safety and other benefits for sustainability further efforts are needed to create legal conditions and recommendations for the CPs, WP.1 can play an important role in this.

Why should WP.1 act?

The United Nations Economic Commission for Europe (UNECE) and its member countries have, over the years, concentrated a lot of effort on designing and up-dating the international legal architecture for road safety, to promote the implementation of the legal instruments and to facilitate the exchange of best practices, mainly through the Working Party on Road Traffic Safety (WP.1) and its expert groups. The safety benefits of automated driving systems and autonomous vehicles, as a part of the development toward a connected and automated and electrified mobility system, are paramount and it will also have economical, societal, efficiency and mobility reimbursements¹.

The Inland Transport Committee (ITC) have a Special priority of global interest which is strengthen activities related to the United Nations legal instruments on road safety under the purview of the ITC, to support contracting parties in developing, improving and sustaining their national road safety systems. A faster pace of implementation of automated driving systems and autonomous vehicles will play an important role in fulfilling the Agenda 2030 and the ITC special priority of road safety.

The 2030 Agenda states clearly that the "17 Sustainable Development Goals (SDGs) with 169 associated targets are integrated and indivisible". This recognition places road safety at the same level of criticality as other global sustainability needs and clearly indicates that sustainable health and well-being cannot be achieved without substantial reductions in road

¹ <https://www.nhtsa.gov/technology-innovation/automated-vehicles-safety>

deaths and serious injuries”². Road safety also have close a relationships with other SDGs and an improved road safety will correspondingly improve most of the other SDGs³

Ensuring the safety of automated driving systems and autonomous vehicles requires a multi-disciplinary approach across all the levels of functional hierarchy, from hardware fault tolerance, to resilient machine learning, to cooperating with humans driving conventional vehicles, to validating systems for operation in highly unstructured environments, to appropriate regulatory approaches. UNECE and its member countries are endorsing a rapid introduction of vehicles with automated functions, as part of a larger context in which the entire transport sector is facing major changes.

To be able to meet the development of automated driving systems and autonomous vehicles, with road safety as an important factor, and contribute to the ITC-strategy and by this also an increased road safety and sustainability, constant new regulatory developments that focuses on improving road safety are needed and WP.1 is well placed to contribute to such endeavours by further develop the United Nations legal instruments aimed at harmonizing traffic rules intended for automated driving systems and autonomous vehicles.

What should be achieved?

Countries need constant support and continued facilitation of alignment in the way they develop and adapt their regulation of the safe deployment of automation. International agreements which describe or advise on such national legislation are an important part of such support.

As the introduction of automated driving systems and autonomous vehicles already has begun and the technology development are rapid there is a need for many CP of formal texts adopted by a UN bodies as WP.1 to support their legal work and to harmonize with other CPs a safe and sustainable introduction of automated vehicles. Many companies and other organisations also need to know what will be from a legal perspective to be able to do correct future strategical and marketing decisions.

The WP.1 has for this purpose asked the IGEAD to consider the question of activities other than driving undertaken by the driver in a vehicle when its automated driving system is engaged.

IGEAD proposes to WP.1 to adopt a resolution which is intended to contribute to more harmonised safety considerations for activities other than driving undertaken by the driver in a vehicle when its automated driving system is engaged. By this it is the intention of IGEAD to support a safe and harmonized introduction of automated vehicles and by this also backing both the ITS-strategy 2030 and the United Nations Sustainable Development Goals including road safety.

What are the various options to achieve the objectives?

Several options are available, e.g., create a new convention, amending the 1949 or 1968 conventions on road traffic, adopt resolutions, devote efforts to initiate a dialogue and discussion with various actors to find out what different organizations can do to best support a safe implementation of automated vehicles, or doing nothing. From discussions in IGEAD, including a shorter time period perspective, a resolution is probably the most efficient, best and only alternative to support a safe introduction of vehicles with an automated driving system (ADS) to allow the driver to engage in other activities than driving when the ADS is engaged. The option to amend the 1949 or 1968 conventions on road traffic is possible but not likely to be a success. Dialogue and discussions are already ongoing and a decision has already been made on a new expert group with the purpose to write a new convention on automated vehicles. This will however take a long time, possibly many years, and doing nothing in the meantime will leave a lack of clarity in the short term, and, in the

² Saving lives beyond 2020: The next steps. Recommendations of the academic expert group for the 3rd global ministerial conference on road safety p.13

³ Mapping the Sustainable Development Goals Relationships., L M Fonseca, J P Domingues , A M Dima., Sustainability 2020, 12, 3359

long term, have the result of frustrating the efforts of those working on the new convention in finding consensus.

What are the options impacts according to the responsibility for WP.1 in the ITC strategy and who will be affected?

As a first step and within a short time frame, only the option of a resolution is possible for WP.1 to upkeep the ITC-strategy 2030 to contribute to sustainable inland transports and mobility and to support the sustainable development goals in the ECE and UN member States by e.g. harmonizing regulatory frameworks, promoting new technologies, supporting the implementation of legal instruments needed etc.

In the ITC action plan, there are also two actions on which the preferred option of a resolution support,

(a) Strengthen the platforms for digitalization, automated driving and intelligent transport systems of inland transport and

(a) Improve regulatory environment to promote automated/autonomous and connected vehicles⁴.

These two actions connect well to the WP.1 role in the UNECE and also towards the WP.1 assigned global ITC competence/strength towards supporting the United Nations sustainable development goals 3.6 and 11.2⁵ in which automated driving systems and autonomous vehicles can play an important role of the fulfilment of these goals.

How do the different options compare according to the responsibility for WP.1 in the ITC strategy (effectiveness, efficiency and coherence)?

The mission for ITC stated in their strategy is to contribute to sustainable inland transport and mobility and to support the sustainable development goals in the ECE and UN member States through policy dialogue, harmonizing regulatory frameworks, as appropriate, promoting new technologies, assisting in enhancing connectivity and supporting the implementation of legal instruments. To support this WP.1 have several options,

Evaluating the options:

(a) The drafting of a new convention or rely of dialogues and discussions will take a long time, possibly many years.

(b) The drafting of a resolution as proposed will have short term benefits of establishing some clarity for countries and developers.

(c) Doing nothing in the meantime will leave a lack of clarity in the short term, whilst regulations on vehicle technical regulations will continue to proceed regardless.

(d) Doing nothing will, in the long term, have the result of frustrating the efforts of those working on the new convention in finding consensus.

As only one option (b) is possible to gain a result within a shorter time frame, no comparison against the other options has been made even if they will also support the ITC-strategy over time (except the option of “doing nothing”).

How will monitoring and subsequent retrospective evaluation be organised?

The monitoring and the retrospective evaluation are proposed to be made by the use of a questionnaire and interviews of delegates in the WP.1 after a possible adoption of the resolution, or failure to adopt it as the case may be.

⁴ ECE/TRANS/288/Add.2 p.5

⁵ Target 3.6: By 2020, halve the number of global deaths and injuries from road traffic accidents and target 11.2: By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

If the resolution is adopted, the main question to answer will be if the resolution have been used in a national legislative perspective and how the resolution was supportive to this.

If the resolution fails to be adopted this will also be evaluated to try to understand what hindered the adoption, what impact this has had on the alignment of regulation in this area among member countries, adverse impacts on the project to draft the new convention, and what impact all of this has had on road safety etc.

The results will then be reported back to the WP.1 and IGEAD and used as an input for learning for if and how to improve the future work in WP.1and IGEAD.
