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INLAND TRANSPORT COMMITTEE

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INTELLIGENT TRANSPORT SYSTEMS

Note by the secretariat

1. **The Intelligent Transport Systems (ITS)** contribute not only to the abatement of global warming from transport activities through a better traffic management but also to an increased road safety. ITS offers non-traditional solutions for many transport sector challenges in an effective way.
2. The growing number of UNECE member States are intensively developing and implementing intelligent transport systems (ITS) in various transport fields. These systems, as well as their implementation at the international level is, however, currently under-regulated and there is an evident need for more harmonized policies based on a widely adopted consensus about their potential in increasing safety, reliability and quality of transport services to name a few. Given that the design and industrial development cycle for ITS systems is shorter than the policy cycle for such technologies, regulatory authorities will have to speed-up their efforts to maximise the potential offered by the implementation of the ITS. Thanks to the large extent of use at the global level of its legal instruments (i.e.: WP.29, WP.15, TIRs, etc.), UNECE has already the potential role in coordinating these harmonized policies world wide.
3. With regards to challenges such as global warming and the global economy recovery ITS can likewise play one important role in contributing by creating new jobs, promoting innovation, research, technology and stimulate economic growth. Meanwhile, it is substantial to acknowledge the advantages/benefits for emerging economies in regards to ITS when building new infrastructures.
4. The common goals at global level for transport are aiming at greener and safer roads. According to the Ministerial Declaration on global environment and energy in transport, concluded in 2009 in Tokyo, ITS is identified as one of the key tools to help achieving this purpose.
5. Thanks to its world wide outreach of his harmonized legal instruments, the World Forum (WP.29) for harmonization of vehicle Regulations of UNECE is tackling this need updating or creating new ones on Intelligent Vehicle Systems (IVS) regulations: which are dealing with

communication between vehicles and between vehicles and infrastructures. Application of information technologies is leading the advances in sustainable transport (safety and environmental aspects) in new vehicle technologies. Some of these technologies (e.g. navigation systems, cruise control and systems to optimise the braking of vehicles) are already in wide use and have contributed to better fuel consumption, fewer accidents and protect vulnerable road users. Tyre pressure monitoring system (TPMS) and brake assist systems (BAS), are two of the most representative examples. TPMS improves vehicle safety, providing real-time tyre pressure monitoring and matching also reduction of CO₂ emissions. While, BAS is aimed at improve brake efficiency to better also pedestrian safety. In 2009, provisions regarding TPMS have been adopted and incorporated into vehicle Regulations for passenger vehicles. Moreover, the development of provisions of other vehicle based systems, such as lane departure warning systems and braking assistance systems are at their final stage and should be completed by the end of 2010. In addition to systems confined to vehicles, there are a number of other systems which interact between the road side or infrastructure and the vehicle.

6. ITS devices are also widely applied in traffic management and control through, for example, variable message signs, speed cameras, electronic vehicle detection and toll charging systems, and vehicle positioning and tracking. Such systems do not only allow the elimination of bottlenecks, greater safety and fuel efficiencies and more cost-effective transport in general, but they are also indispensable in assessing traffic loads and patterns, planning for future infrastructure needs and contribute to greater security in transport. UNECE legal instruments could be developed or used in the future to recommend or regulate the use of these technologies. For example, in the context of UNECE activities related to the development of regulations on inland transport of dangerous goods (WP.15), work has been initiated to consider how telematics could be used to improve the safety, security and facilitate transport of dangerous goods by using monitoring and tracking systems linking consignors, transport operators, emergency responders, enforcement and control authorities and regulators.

7. Many other ITS regulating activities are under way into the activities of the Transport Division and further improvements in safety and environmental performance of transport modes, particularly with regard to global warming could be fostered if ITS applications would be streamlined.

8. At this aim, UNECE Transport Division is developing a road map in the different areas of its competencies regarding ITS technologies and their implementation in the future in a harmonized way.

9. This road map will focus on the past and present UNECE actions regarding ITS technologies in the different areas of work of its Transport Division and identifying their implementation in the future in a harmonized way. A draft of this publication will be shared with all the main stakeholders in the field of ITS also to provide:

- (a) Information and communication technologies (ICT) for transport and logistics;
- (b) concrete solutions to better efficiency, the quality and security of road transport;
- (c) a brief outline on different transport modes when twinned with road transport policies;
- (d) analyze to which extent the ITS and ICT maybe integrated to enable the monitoring of transport.

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