

PROPOSAL FOR A DEFINITION OF AN INTELLIGENT TRANSPORT SYSTEM (ITS)

Transmitted by the representative of Hungary

**1. Introduction**

The Inland Transport Committee (ITC) of the ECE requested WP.29 to study and overview the rapidly developing field of ITS, mainly looking for the necessity and possibility of international regulation in the present and in the future. WP.29 is organising a round table discussion about this subject in 2003. During the 127th session of WP.29 there was a demand to have a good definition of ITS.

**2. The viewpoints of the definition**

2.1. The ITS-s have many relations, they may be defined on the basis of various viewpoints. The resent definition should be based on two essential requirements:

- the definition shall be general enough to cover all the ITS-s being already used or to be developed in the future in the road traffic and transportation
- on the basis of this definition the international regulation of ITS-s (requirements, test methods, approval) should be treated easily, mainly in respect of effectiveness, safety and security.

2.2. In road vehicles a lot of Intelligent Vehicle Systems (IVS) are already used in the present practice and many others are under development. These IVS-s themselves are not ITS-s, but they can be connected to ITS-s during the operation. Theoretically the international regulation of IVS-s is solved, they are regulated together with the systems in which they are applied (brake, steering, lighting, suspension, engine management, etc.) or new regulations have to be worked out (e.g. for crash avoidance systems). But nothing is said about the intercommunication between IVS-s and ITS and about the ITS itself.

**3. Definition of ITS**

The ITS is an informatic telecommunication system for road vehicles, helping their driving and operation, which is characterised by the following:

- a) A certain group of vehicles – which are nominated by law, official order, decision of a company or individual person – are connected to a Centre by a communication system which makes possible a two directional communication. This communication may be automatic (without human interaction) or human initiated.
- b) The Centre – which may have sensors, markers, information transmitters and transducers in the space or on the roads – is collecting, storing, processing and transferring data and information related to the vehicle group belonging to the ITS.
- c) The informatic telecommunication system performs one or more well defined functions, like:
  - better and easy navigation and orientation
  - safer traffic and transportation
  - more effective utilisation of vehicles and transportation
  - better, well organised vehicle maintenance
  - more organised vehicle rescue and repair
  - better first aid service, etc.
- d) The individual vehicles – belonging to a certain ITS – are connected to the system by a communication unit (CU) built in the vehicle. The CU has a two-directional connection between the vehicle (its IVS-s or its driver) and the Centre.
- e) One vehicle may belong to more ITS, meaning that it may have more than one CU. These CU-s may communicate to each other or one CU may serve more ITS-s, too.