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Latest technology trends impacting eBusiness, internet trading and trade facilitation: Anticipating the fourth industrial revolution

Intelligent Transport Systems & Automated and Connected Vehicles

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Content

• UNECE’s World Forum «WP.29»
• UNECE’s activities on Intelligent Transport Systems
• The challenges related to road transport
• Automation and connectivity innovations: disruption / progress
• Some regulatory activities aimed at addressing technological progress
UNECE and vehicle regulations

The World Forum for Harmonization of Vehicle Regulations (WP.29)

- UNECE Transport Division: secretariat to WP.29 for more than 70 years
- Since 2000, WP.29 is:
  - the unique worldwide regulatory forum for the automotive sector
  - administrating three Multilateral UN Agreements

**Construction regulations**
- 1956 Agreement - Type Approval Regulations with mutual recognition of the type approvals
- 1998 Agreement - Global Technical Regulations

**In use PTI regulations**
- 1997 Agreement - Adoption of Uniform Conditions for Periodical Technical Inspections of Wheeled Vehicles and the Reciprocal Recognition of such Inspection

Conventional vehicles

- Incl. their sub-systems and parts

Connected and automated vehicles
UNECE and vehicle regulations

What is WP.29 doing?

- Emissions of pollutants and CO₂
- General safety
- Passive safety
- Noise and tires
- Automated/autonomous and connected vehicles
- Lighting and light signalling
Regulation through cooperation with various sectors & SDOs

- **Lighting and Light Signalling sector:**
  - IEC standards: IEC 60061, IEC 60809
  - Specific UN Regulations on light sources

- **Tire sector:**
  - ISO, ETRTO, JTMA standards
  - Regulation on tires
  - Regulation on tire installation

- **ICT and Telecom sector:**
  - eCall
  - Cyber Security and OTA
ITS Activities beyond the vehicle beyond the vehicle
Agenda 2030 – Sustainable Development Goals

Our challenges:
- Environmental issues
- Road safety tragedy
- Urban transport
- …
Automation and connectivity

Automated and connected vehicles are expected to contribute to the solutions needed to address the transport related issues:
- Road traffic
- Pollution
- CO₂ emissions
- Road safety crisis
Technical progress and … new behaviors

Motion sickness?
Regulatory challenges regarding automation

• Autonomous and Connected vehicles do not really exist yet - only prototypes and trials, but no mass market product.

• The regulatory work is preempting the technology.
  ➔ The regulator has to be *moderately proactive* to enable innovation.

Goal:
- integrate the technologies into the existing transport system,
- ensuring that the benefits of these new technologies can be captured.

The UN member States do so without compromising on:
  safety and achievements so far (e.g. international transport, trade, interoperability and environmental performance).
Regulatory activity highlights

• Automation:
  – Level 3 (/4) on highway

  ADAS:
  – RCP LKA
  – R79
Regulatory activity highlights

• Safety ("Automation derivatives")
  – Active safety:
    • AEB (car2car, car2pedestrians, car2bicycle)
    • Emergency Steering Function
    • Remote Control Maneuvering
Regulatory activity highlights

- **Connectivity:**
  - Resolution on Cyber Security and Data Protection
  - Draft regulations on Cybersecurity and (OTA) software updates

ITS-G5, DSRC, LTE-4G, 5G...?
Other regulatory activity highlights...

- Environmental performance of vehicles
  - WLTP
  - RDE

Regulations for:
  - Hydrogen fuel cell vehicles
  - Electric vehicles

Also:

Method of stating energy consumption of electric vehicles
THANK YOU VERY MUCH FOR YOUR ATTENTION

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http://www.unece.org/automated-vehicles

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