Automation, connectivity, electrification, and sharing (ACES): Transforming road transport services

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Automated Driving vehicles are expected to contribute to the solutions needed to address the transport related issues:
- Congestion
- Pollution
- CO₂ emissions
- Road safety crisis
UNECE and vehicle regulations

- Social Rules (driving and rest hours)
- Road Traffic Rules
- Drivers’ License
- Road Signs and Signals
- Infrastructure (standards and parameters, tunnel safety, all land modes)
- Statistics
- Vehicle Regulations
- Border Crossing Facilitation
- Dangerous Goods

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

- UNECE Transpor. Division: secretariat to WP.29 for more than 60 years
- Since 2000, WP.29 is:
  - the unique worldwide regulatory forum for the automotive sector
  - administering three Multilateral UN Agreements

Incl. their sub-systems and parts

Construction regulations
- 1958 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
The challenges

- Autonomous 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).
Lower levels of automation – WP.29 achievements

Achievements:
- Package 1  (ACSF Cats A and B1) Adopted in March 2017
- Package 2  (ACSF Cat C + CEL Annex) Adopted in March 2018
- Package 3  (ACSF Cat E) Draft review expected in September 2018
Slower than expected?

After peak hype, self-driving cars enter the disillusionment phase

(According to the the Gartner hype cycle)

Other industrial priorities

Level 2+ in the pipeline, according to Intel/Mobileye
(L2+ = L2 + HD maps)

Source: Wired

Source: youtube channel Mobileye
Automation - new products, new concepts, new usages

This car is a passenger car. May be automated.

Is this a passenger car? or a bus? Not designed for a driver! How to assess it for safety?

This is a light duty/goods vehicle. It does not have a driver. It probably has a remote operator. Does it meet regs. requirements?

This is not really a passenger car. This is not really a quadricycle. How to assess it for safety?

Need to review existing regs?

Remote controlled? Only off road? Geofencing necessary?
Higher automation levels: Horizontal Regulation – work ongoing
Cyber security

Advocacy groups presented the following cases to WP.29

They also raised the concern of data protection
  • Malicious or fraudulent activities
  • Fully legal activities but not in the interest of the consumers
  • (Concerns related to privacy, which is mentioned in the Universal Declaration of Human Rights)

➔ WP.29 adopted guidelines on Cyber Security and Data Protection
➔ Task Force on Cyber Security and Over the Air
THANK YOU VERY MUCH FOR YOUR ATTENTION

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