80th Inland Transport Committee
20-23 February 2018

Intelligent Transport Systems

Agenda item 4(f)
UNECE and Intelligent Transport Systems (ITS)

- Background document
- Strategic note
- Road map

Adopted in 2012
Agenda 2030 - SDGs
Events in 2017

The Annual ITS round table (WP.29/GRRF – WP.1)
- 90 min session
- Bringing the road traffic and vehicle experts together
- Exchange of information on respective activities of mutual interest
  - Secondary activities
  - Remote Control Parking
  - Cyber Security
  - IoT and Road Transport / Mobility

The 2017 Future Networked Car symposium
- 1 Day symposium co-organized by ITU and UNECE
- Bringing the Telecommunication and the Automotive industries together meeting the regulatory and standardization bodies (ITU/UNECE)
- Policy dialogue on
  - 5G and the automotive applications
  - Connected and Automated vehicles
  - Cyber security

The Global Forum for Road Traffic Safety (WP.1)
- Workshop on Traffic Safety in an Automated vehicle environment
- Co-sponsored by
  - Global Forum for Road Traffic Safety,
  - National Highway Traffic Safety Administration
  - French Institute of Science and Technology for Transport, Development and Networks (IFSTTAR)
- To open discussion on the challenges and opportunities
- Focus on integration of highly automated vehicles in traffic
- To stimulate thought among a broad range of stakeholders on approaches for maximizing the safety of traffic in future years
ITC Working Parties ITS activities (examples)

Guideline on Cyber Security and Data Protection

- It contains:
  - Definitions
  - Data protection requirements, e.g.
    - Everyone’s right for privacy and communications shall be respected
    - Privacy ‘by design’ and ‘by default’
  - Cyber Security and Safety requirements, e.g.
    - Avoid fraudulent manipulation
    - Detect fraudulent manipulation by a cyber-attack, inform driver
    - Secure software updates

- Verifiable through independent authorized audit.

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

Work on Automated Vehicles

The regulatory work is preempting the technology
- The regulator has to be moderately proactive to enable innovation:
  - not too quick, not too slow.

Goal:
- Integrate the technologies into the existing transport system,
- ensuring that the benefits of these new technologies can be captured
- We do so without compromising:
  - safety and ITC’s achievements so far
  - e.g. international transport, trade, interoperability and environmental performance

The IWG on ITS/AD

Level 3 - 5: Horizontal Regulation

Use Cases: Urban, Highway, Intersection, Parking for automation levels 3, 4 and 5

- Requirements address vehicle behavior in real traffic and further general safety requirements

Physical Certification Tests
- Dedicated, reproducible verification tests for specific scenarios that cannot be guaranteed in real world test drives
- Objective performance criteria
- Significant testing efforts to represent requirements into reproducible test environments which may result in measurable functional restrictions

Real World Test Drive
- Test drive to assess the vehicle’s overall behavior in public road traffic, cooperation with traffic laws and maneuvers according to general check list
- Limited testing effort
- Subjective influence on judgment
- Requires highly skilled and qualified test house/certification agency to appropriately assess systems

Audit
- OEM provides e.g.:
  - Safety strategy / functional safety strategy
  - Certification and development data to verify vehicle behavior in edge cases
  - MANUFACTURER’S SELF DECLARATIONS

Type Approval
- Existing 3+1 use case tests
- Technological innovation

ADAS Audit
- Supplementary to ORA/RIA safety case

Real World Test Drive
- Key part of process
- Is 80% enough?

ITS/AD’s Task Force on Cyber Security and OTA
- Reporting to the IWG on ITS/AD

The aims of the group are to:
- Define requirements for addressing cyber threats
- Define requirements for software update management with respect to safety type approval
- Define guidance or measures for how to achieve this
- Address the effect of OTA on cybersecurity and the overall type approval system
- (Potential challenges for administration of vehicle “in use”)

- Aim to deliver these in 2019 to WP.29
- The output may then be adopted as a UN Regulation possibly linked to a Resolution (dynamic)

- Recommendations are being drafted on Cyber security and on OTA issues

Proposed certification system compatible with existing systems (Type Approval or Self Certification)
This ensures a minimum impact on national or regional systems dealing with registration, insurance etc.
The Working Party on the transport of Dangerous Goods

The joint meeting of:
- The Committee of experts on the Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)
and
- the Working Party on the Transport of Dangerous Goods, through its Informal Working Group on Telematics,
continued work on ITS applications aimed, inter alia, at improving the speed and efficiency of emergency responses involving dangerous goods in transport.

Working Party on Intermodal Transport and Logistics

The Working Party regularly addresses the role of ITS in intermodal transport and logistics by inviting experts to present:
- projects,
- innovative solutions and good practices in ITS.

This year the Working Party invited the European Union project Tellisys on the development of a complete volume optimized intermodal combination, including a product family of new intermodal loading units, which satisfy the current market demands.

This solution enhances the performance of intermodal logistic chains by meeting the European Union’s demand for more energy-efficient, low-emission logistics networks and contributes to more efficient transport by easing the transition between different transport modes.

The Working Party on Inland Waterways

- ITS applications in Electronic Ship Reporting and on the harmonization of pan-European River Information Services (RIS)
- Provisions for variable traffic signs were included in Resolution No. 59, "Guidelines for Waterways Signs and Marking"
- Electronic charts and the visualization of signs on inland waterways were added to the draft revision of Signs and Signals on Inland Waterways in Chapter 12

The Working Party on Customs Questions affecting Transport

MoU with IRU as basis for funding of finalization and rollout of the system
Pilot projects Georgia - Turkey
Non-ECE relevant activities

• The 2017 G7 transport ministers’ declaration:
  – encourage the UNECE’s WP.29
  – to continue to work on the fundamental technical principles, including appropriate performance metrics and test procedures for demonstrating the effectiveness and safety of these technologies
  – to focus activities on systems with higher levels of automation and
  – to assess whether new categories should be defined in order to cover all kinds of automated driving systems

• The Resolution on Data Protection in Automated and Connected Vehicles adopted by the thirty-eighth International Conference of Data Protection and Privacy Commissioners in September 2017 mentions:
  – The Guideline on Cyber Security and Data protection
THANK YOU VERY MUCH FOR YOUR ATTENTION

UNECE

http://www.unece.org/trans

Francois.Guichard@unece.org
Walter.Nissler@unece.org