

# Vehicle technologies to enhance road safety

## Regulatory Context

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

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WP29/GRSG Chairman

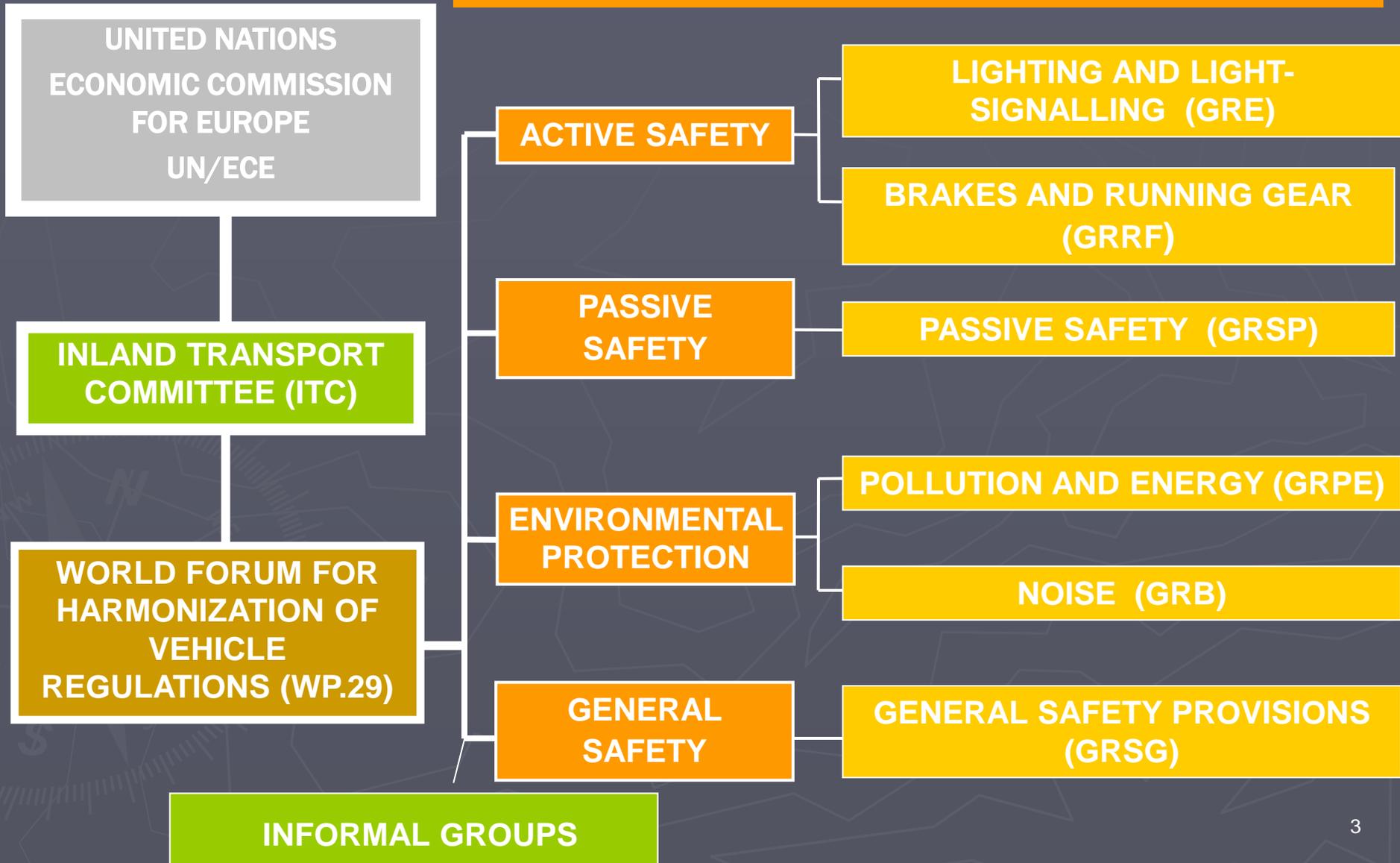
# Historical background of WP.29

- 1949: Convention on Road Traffic  
-> Resolution No. 45
- 1952: Establishment of WP.29
- 1958: '58 Agreement
- 1997: '97 Agreement
- 1998: '98 Agreement
- 2000: World Forum



# Structure of the World Forum WP.29

## ADMINISTRATIVE COMMITTEE COORDINATION OF WORK



# Agreements administered by WP.29

The World Forum administers 3 Agreements:

'58 Agreement concerning the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles and the conditions for *reciprocal recognition* of approvals granted on the basis of these prescriptions (52 Contracting Parties, 131 UNECE Regulations)

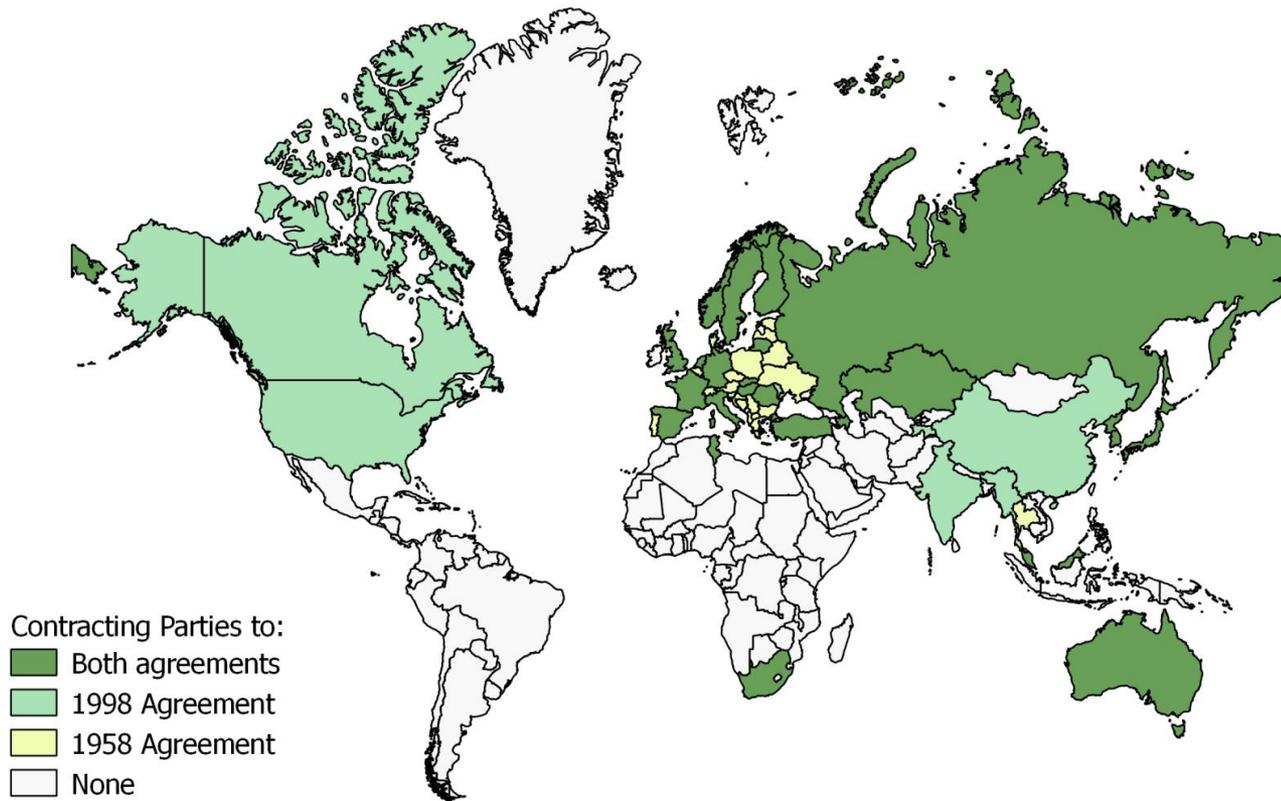
'98 Agreement concerning the establishing of global technical regulations (gtrs) for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicle (31 Contracting Parties, 12 gtrs, adopted in 2012)

'97 Agreement concerning the adoption of uniform conditions for periodical technical inspections of wheeled vehicles and the reciprocal recognition of such inspections (11 Contracting Parties, 17 pending signatories,)

The 58 & 98 should have similar technical provisions (parallel)

# Contracting Parties

Countries Contracting Parties to the 1958 and 1998 Agreements



# The '58 Agreement

- 52 Contracting Parties (incl. European Union-EU).
- Regulations also accepted by other countries (i.e. Canada, ASEAN,)
- Regulations also applied by other countries as national law (i.e. South America, Philippines, Australia)
- Legal acts: Regulations are annexed to the Agreement
- Obligation for CPs: Mutual recognition of the type approvals
- Flexibility: Contracting Parties (CP) **are free to adopt all, some or no Regulations.**
- Adoption by a 2/3 majority
- 131 Regulations
- 100 amendments and 3 new Regulations adopted in 2012 (AEBS, LDWS, CRS)

# Active Safety

## **GRRF Activities on brakes and running gear:**

Anti-lock braking systems (ABS): 1990

Regenerative braking systems: 2008

Electronic Stability Control (ESC): 2008

Tyre Pressure Monitoring Systems (TPMS): (2010)

Advanced Emergency Braking Systems and Lane Departure Warning Systems (AEBS & LDW): (2011)

## **GRE Activities on lighting and light-signalling:**

Conspicuity/Contour markings: 2006

Dedicated Daytime Running Lamps (DRL): 2007

Adaptive Front-lighting Systems (AFS): 2007

LED headlamps: 2008

## **WP.29 informal group on:**

Intelligent Transport Systems (ITS)

# Passive and General Safety

## **GRSP Activities on passive safety:**

Safety belts: 1970

Protective helmets: 1972

Child Restraint Systems (CRS): 1981

Frontal and lateral crash tests: 1995

Pedestrian safety: 2008

Electric safety: (2010)

Updated frontal crash barrier: (2010)

## **GRSG Activities on general safety provisions:**

Indirect vision systems (mirrors & camera monitoring): 1981/2005

Safety glazing materials: 1981/2008

Superstructure of buses and coaches: 1986/(2010)

Burning behaviour: 2005

Control tell tales and indicators

# WP.29 achievements

- Anti-lock braking systems (ABS): 1990
- Regenerative braking systems: 2008
- Electronic Stability Control (ESC): 2008
- Tyre Pressure Monitoring Systems (TPMS): (2010)
- Dedicated Daytime Running Lamps (DRL): 2007
- Resistance of the superstructure of buses and coaches

# WP.29: past, present and future

Advanced electronic systems providing assistance to the driver:

Advanced emergency braking systems,(AEBS)

Lane departure warning systems,(LDWS)

Rear view cameras

Child restraint system (new regulation)

Safety of electric vehicles

Pedestrian Safety

# WP.29: past, present and future

## Ongoing work:

- Hydrogen and Fuel cell vehicles, pure electric vehicles, hybrid heavy duty vehicles, CO<sub>2</sub> emissions
- New regulation on head restraints,
- Noise of electric and hybrid vehicles
- Electric vehicle safety platform
- **International e-call????**

# ITS

Roadmap for Intelligent Transport systems

Informal group on in-vehicle ITS

- ▶ **Design Principles for Advanced Driver Assistance Systems**
- ▶ Safe driver-vehicle interaction is important for the effectiveness of driver assistance systems.
- ▶ Advanced driver assistance systems that control the vehicle are evolving rapidly.

# EU legislation and UNECE Agreements

- ▶ EU CPs to 1958 and 1998 Agreement
- ▶ Framework Directive 2007/46/EC recognises UNECE Regs as equivalent to the corresponding EU Directives
- ▶ General Safety Regulation (661/2009) and its implementing acts (Reg 407/2011) repealed more than 60 EU Directives to be replaced by UNECE Regs as mandatory (2012 new types 2014 registration)

# FUTURE OF 1958 AGREEMENT

- ▶ CARS21 Report concluded that UNECE 1958 Agreements is the most effective instrument for international regulatory harmonisation provided that it is modernised to accommodate the needs of emerging economies and enables the mutual recognition of international whole vehicle type approvals (IWVTA) starting with the category of passenger cars (M1).

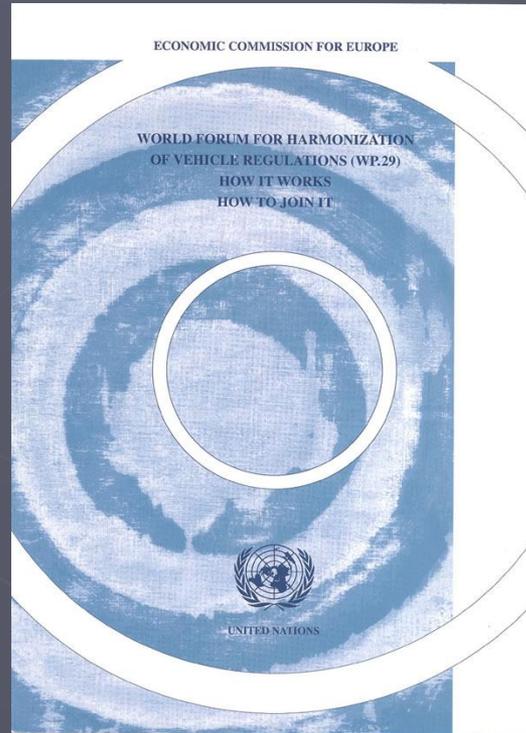
# CARS 2020 Action Plan

- ▶ The Commission will:
- ▶ promote and actively support further international harmonisation of vehicle regulations.
- ▶ The **reform of the 1958 UNECE Agreement** is will aim to make adoption and implementation of international regulations **more attractive for third markets**.
- ▶ The Commission will steer the development of a first proposal for the revised 1958 Agreement in March 2013.

# WP.29 is worldwide, unique and transparent

- Agreements open to all nations of the UN
- Participation open to States, GO and NGOs, but  
**Decisions taken by Governments of CPs**
- No other organization cover this area
- All regulations and rules, calendar of meetings, agenda, working documents and reports are freely available at the WP.29 website:  
[www.unece.org/trans/main/welcwp29.htm](http://www.unece.org/trans/main/welcwp29.htm)  
(including the Terms of Reference & Rules of Procedures as well as the status documents of the 3 Agreements)

# WP.29 – How It Works/How to join it?



<http://www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29pub.html>

**THANK YOU FOR YOUR ATTENTION**