

Global Harmonisation of Automotive Lighting Regulations

This discussion document has been prepared to provide more explanation of the initial proposal submitted by GTB to WP29 at its 157th session in June 2012 (WP29-157-12 and now transformed as ECE/TRANS/WP.29/2012/119 for WP29-158).

An Important Challenge

How to adapt the UN automotive lighting regulations to facilitate global harmonisation, ensure traffic safety and avoid being a barrier to commercial exploitation of new technologies?

The Problem

- Too many UN Regulations subject to continuous amendment
- Frequent amendments are necessary to keep pace with technological development
- Other regulatory systems based on UN regulations are out of line with the latest amendments

Product Innovation

- New technologies and their convergence = New regulatory challenges
- Vehicle lighting and signalling has evolved as a complex vehicle system
 - Has evolved from being a device installed on the vehicle
 - LED's +optical system + sensors + data processing = "Driver Assistance"
 - Driver Assistance Systems = new challenges for regulators
- Regulation is required to assure that safety is not compromised by poor systems.

Commercial Considerations

- Innovative solutions sell cars and provide a competitive advantage
- Innovation and the need to regulate are in conflict
 - vehicle manufacturer needs to launch to gain a competitive advantage
 - not prepared to provide details necessary to formulate an amendment
 - increasing trend to find an interpretation of the existing text of a regulation
 - leads to potential conflict as administrations will not agree on an interpretation of another administration and competition distortion results

Regulatory Approach

- Regulations should be simple but effective to assure minimum safety levels
- The European Union and Japan launched an initiative at WP29 in March 2012 to encourage a new approach to lighting and signalling regulations placing more emphasis on performance based requirements.

This initiative should also have the objective of making it easier for countries who have not signed the UN “1958” agreement to adopt the technical provisions of the UN regulations.

Harmonisation

- UN Regulations are applied globally
- Adopted in totality by contracting parties to the 1958 agreement

However,

- ❖ Non-contracting parties are increasingly adopting the technical provisions of the UN regulations for incorporation into national standards and regulations, BUT are introducing their own certification systems
- ❖ Problem of keeping the national standards and regulations in line with the UN regulations that are currently subjected to regular amendments (e.g. EU, China)

Harmonisation

- ASEAN countries are considering introducing a mutual ASEAN recognition system.
 - This will conflict with the principles of global harmonisation by operating in parallel with the UN system ?
 - Currently lighting innovations are originating from Europe and are being introduced into UN Regulations.
 - ❖ Although the technical requirements of the ASEAN system may be based upon the UN regulations there is a real risk that these requirements will continually be out of step with the UN regulations.
 - ❖ This could result in a two tier approach to road safety.

Impact upon our Resources

- Resources are required to maintain 41 UN lighting regulations plus national requirements (such as Chinese GB standards)
 - ❖ Huge workload for GTB, UN Secretariat, EU, industry, test houses, etc.
 - ❖ The UN is required to translate into three languages, the EU into 23 languages.
 - ❖ China requires a long period to update the GB standard to align with UN Regulations, etc.
- National standards, based on UN regulations but also including additional requirements (e.g. China and India), significantly increase vehicle costs.
- The cost of the current system of numerous regulations and national standards is not sustainable.

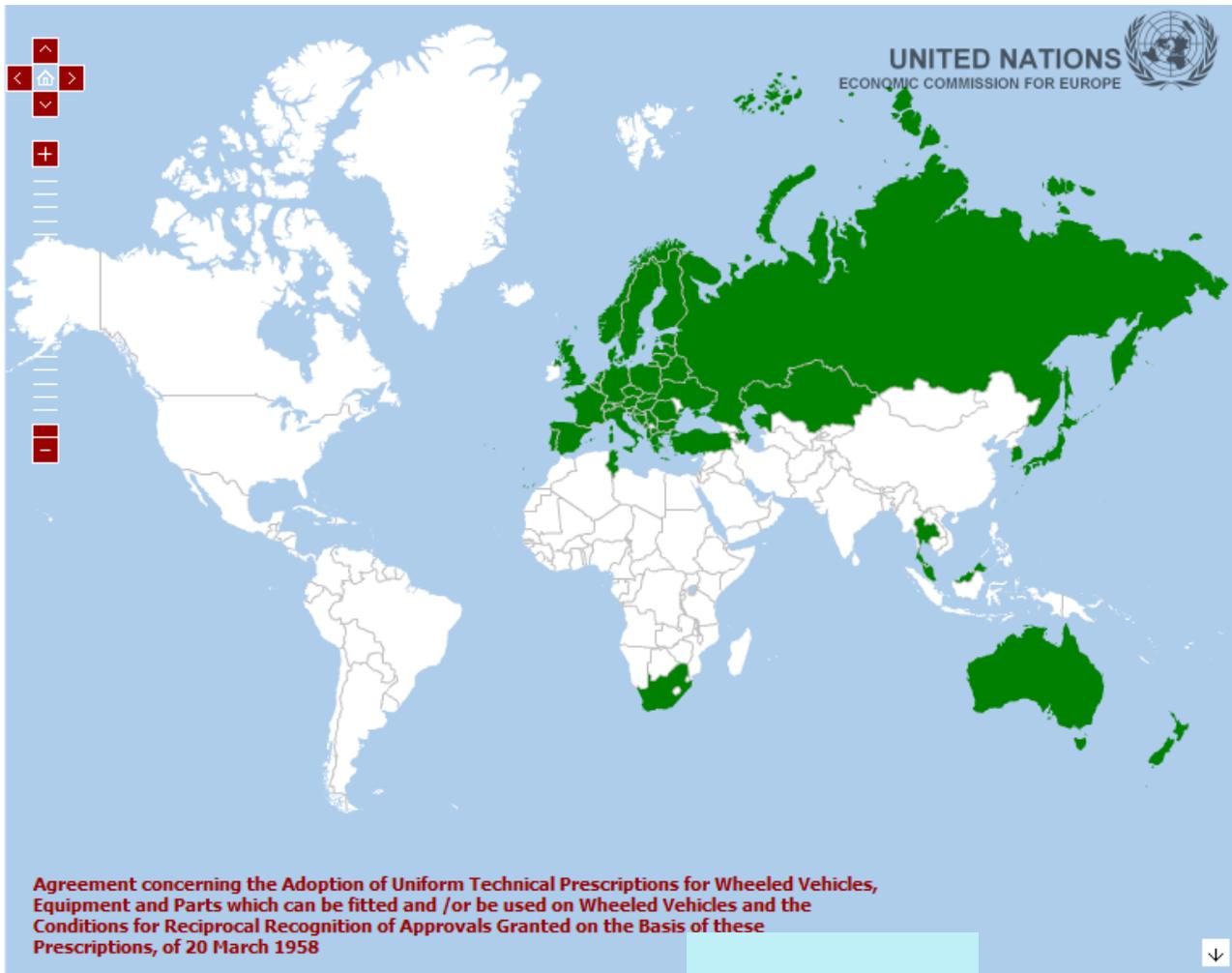
Our Shared Objective?

Jointly work toward global harmonisation of lighting and light-signalling regulation to:

- ✓ encourage the universal adoption of “simplified” UN Regulations
- ✓ facilitate the introduction of new technologies and support manufacturers to be competitive
- ✓ maintain the prime emphasis of traffic safety

Global Harmonisation

UN 1958 Agreement

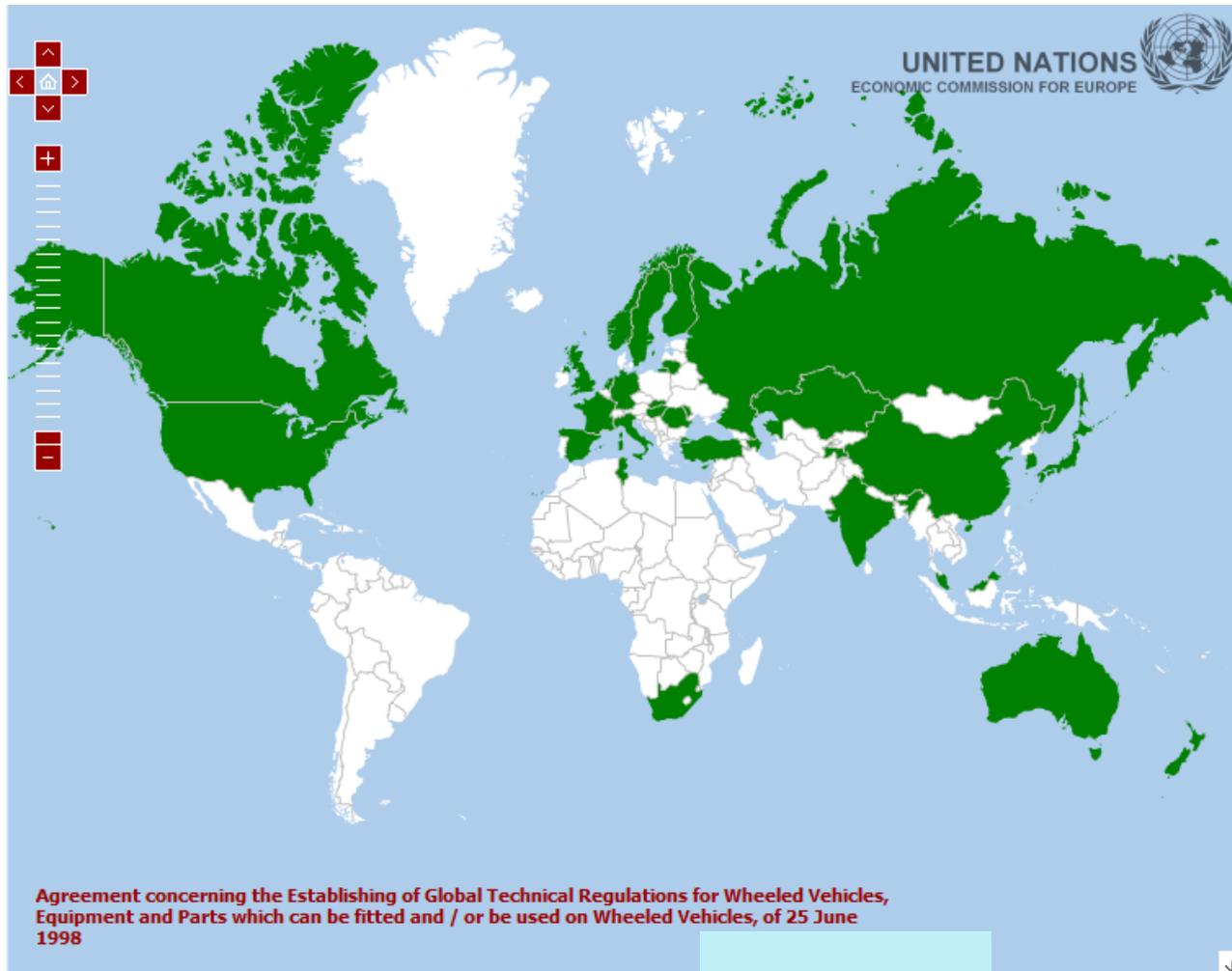


47 Contracting Parties

Albania, Australia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, European Union, Finland, France, Germany, Greece, Hungary, Italy, Japan, Kazakhstan, Latvia, Lithuania, Luxembourg, Malaysia, Montenegro, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russian Federation, Serbia, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Thailand, The former Yugoslav Republic of Macedonia, Tunisia, Turkey, Ukraine, United Kingdom

Global Harmonisation

UN 1998 Agreement



33 Contracting Parties

Australia, Azerbaijan, Canada, China, Cyprus, European Union, Finland, France, Germany, Hungary, India, Italy, Japan, Kazakhstan, Lithuania, Luxembourg, Malaysia, Moldova, Netherlands, New Zealand, Norway, Romania, Russian Federation, Slovakia, South Africa, South Korea, Spain, Sweden, Tajikistan, Tunisia, Turkey, United Kingdom, United States

Conflicting Approaches

- ❖ The 1958 agreement includes mutual recognition of type approvals and some argue that it avoids the disadvantages of self certification and the need for costly market surveillance. .
- ❖ ASEAN countries are considering introducing a mutual ASEAN recognition system. Would this conflict with the principles of global harmonisation by operating in parallel with the UN system ?
- ❖ Currently lighting innovations are mainly originating from Europe and are being introduced into UN Regulations. This means that the UN system is the leader.
- ❖ Although the technical requirements may be based upon the UN regulations there is a real risk that national standards (e.g. China, India, US) will continually be out of step with the UN regulations. This could result in a two tier approach to road safety.

A Possible Way Forward – UN 1998 Agreement

- ✓ We have to accept that the wider adoption of the 1958 agreement is unlikely in the short / medium term
- ✓ Majority of regulatory systems follow the UN technical provisions
- ✓ Contracting Parties to the UN 1998 Agreement could establish GTR's to establish harmonised technical provisions
- ✓ GTR's offer the opportunity for global harmonisation and to avoid the current problem of maintaining alignment of national standards with UN regulations

A New Global Approach

The GTB Initial Response to the EU / Japanese Initiative - presented to WP29 - June 2012 (See WP29-157-12)

- Study the feasibility of simplifying the current 41 UN Lighting and Light-Signalling Regulations by grouping them as
 - ✓ Forward Lighting Devices
 - ✓ Light Signalling Devices
 - ✓ Retro-reflective & Luminescent Devices
 - ✓ Installation Requirements
- Focus on performance based requirements (BUT establish what we actually mean!)
- This would potentially reduce the number of regulations from 41 to 11.

A New Global Approach

The GTB Initial Response to the EU / Japanese Initiative - presented to WP29 - June 2012 (See WP29-157-12)

- Study the feasibility of establishing GTR's for Lighting and Signalling Devices and their Installation
 - ✓ Avoid the problem of misalignment of UN regulation technical provisions with other national standards
 - ✓ Avoid the road-block concerning mutual recognition of UN type approvals
 - ✓ Place emphasis on Performance Based Requirements –BUT develop a common understanding of what this really means!
 - ✓ Avoid the problem of “inventive” interpretations of the existing device oriented UN regulations.

A New Global Approach

Emphasis on Performance Based Requirements*

- Need to study the feasibility of introducing performance based requirements as a basis for new GTR's for Lighting and Light Signalling and their installation
- Take into account the NHTSA request for comments on a technical report which evaluates new approaches for the regulation of motor vehicle lighting performance.
(49 CFR Part 571 [Docket No. NHTSA-2011-0145])
- Performance based approach is NOT appropriate for the regulation of light sources.
 - ❖ Detailed specifications of photometrical, dimensional, electrical characteristics are necessary for Replacement and Safety (see WP29-156-08e)
 - ❖ Test requirements are technology dependent or become costly because of unnecessary testing



Need to develop a common understanding of what this really means!

A New Global Approach

Separation of the Technical and Administrative Issues

Technical Considerations related to GTR's

- ✓ The development of GTR's may provide a pragmatic approach toward harmonised technical requirements as a basis for traffic safety
 - Technology independent requirements to facilitate introduction of new systems
 - Delay and costs associated with the update and alignment of various regulatory systems are avoided.

A New Global Approach

Separation of the Technical and Administrative Issues

Administrative Considerations related to GTR's

- ✓ A new global approach can be compatible with the UN Regulations under the 1958 Agreement and other national or regional certification systems
- ✓ Debate concerning the pros and cons of mutual recognition of type approvals under the 1958 agreement:
 - ❖ Generally preferred by industry already working under the 1958 agreement as a means of reducing the cost / resource requirements/ time delays associated with the need to obtain national approvals.
 - ❖ Other industry members advocate the self certification approach

- Discussion at GRE in Geneva, 16-18 October 2012
- GTB Feasibility Study – To be discussed at the 114th session - Seattle, USA, 29-31 October 2012
- Formal discussion will start at the 158th session of the WP29 World Forum - 13-16 November 2012

Expectations

- The UN WP29 World Forum to be the “Catalyst”
- Support of contracting parties basing their requirements on national standards
- Sponsorship of GTR’s to be developed in GRE informal groups
- GTB may be able to act as secretariat of the GRE informal groups
- Completion of work in [5] years

It is likely that any new approach that will be developed will exist as an alternative to existing provisions during a suitable transitional period to allow industry to adapt.

- All contracting parties to the 1998 Agreement will directly introduce the GTR’s into their national requirements to ensure globally synchronised implementation of amendments.

- This will be a major task requiring dedication of significant resources from Governments and from NGO's
- The short-term investment will be justified by the long term benefit that will result from simpler regulation for all stakeholders

Global Harmonisation of Automotive Lighting Regulations



**TOGETHER,
we CAN
succeed**

Thank you for your attention

GTB

*The International Automotive Lighting
and Light Signalling Expert Group*

Groupe de Travail "Bruxelles 1952"