

Automotive Lighting Innovation

Standardisation, Regulation, Harmonisation, and GTB / DVN



Geoffrey R Draper

Former GTB President

DVN Senior Advisor

DVN Lidar Think Tank, Frankfurt, 22 February 2022

Standardisation

A necessary tool in the case of producing components to be interchangeable and distributed worldwide

- Requirements are not legally enforceable without a regulatory act at a national level

Regulation

A Regulation is the legal act setting out the mandatory requirements to assure traffic safety

- Performance based technology neutral requirements
- Regulations cannot introduce dynamic references to standards
- Unresolved issues about the use of content from standards (ISO, SAE, IEC, CIE etc)
 - Copyright
 - Regulations cannot refer to standards that are only accessible with the payment of a fee.

Harmonisation of Technical Requirements

- Doesn't always mean having identical requirements, because the needs of different countries can often vary
- Does mean at least eliminating unnecessary differences and bringing requirements closer together



2018

GRVA (Working Party on Automated/Autonomous and Connected Vehicles) Launch

1977

1st session of the Working Party on Lighting and Light-Signalling (GRE)

1953

1st session of UNECE Working Party on Construction of Vehicles (WP.29)
Now the World Forum on Harmonisation of Vehicle Regulation

1952



1st session of GTB in Brussels

1950

1st session of UNECE Ad Hoc Working Group on the prevention of road accidents

1948

1st session of UNECE Inland Transport Committee





May 1952
1st GTB Session - Brussels
(Belgium, France, Germany, Italy, Netherlands, Norway, Portugal, Switzerland, UK,)



GTB – Joint Working Party of ISO, IEC and CIE (Contributing to WP.29 and GRE)

2011 Legally Established Association



1952
1st GTB Session

2000
GTB ceases to be a standardisation body

2014
GTB granted Special Consultative Status at UN ECOSOC

November 2019
128th GTB Session - Seoul (Republic of Korea)
(Austria, Belgium, China, Czech Republic, France, Germany, Hungary, Italy, Japan, South Korea, Netherlands, Poland, Slovenia, Spain, Sweden, Taiwan, UK, USA)





More than 150 active experts

WORKING GROUPS

TASK FORCES

Strategy

Conformity of Production

Installation

Front Lighting

Signal Lighting

Vehicle Level Laboratory Testing Procedure

Light Sources

Photometry

Lighting and visibility for Sensors

Safety and Visual Performance (Scientific Group)



www.gtb-lighting.org

World Forum on Harmonisation of Vehicle Regulation (WP.29)



Road Safety
Environmental Protection
Trade

UN 1958 Agreement

Reciprocal Acceptance of Type Approval
(53 Contracting Parties)
41 Lighting & Signalling Regulations (2012)

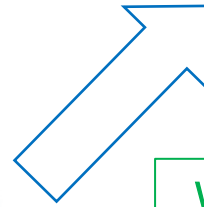


UN 1958 Agreement

Technical requirements

Followed by 53 contracting parties and other countries including China, India, Korea.

NOT recognised by the USA



WP29 Working Parties
e.g. GRE - GRVA



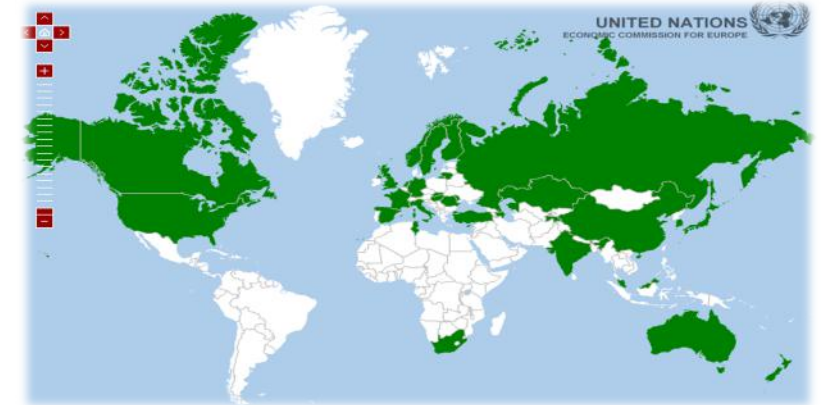
NGO's provide the technical expertise

(GTB, OICA, CLEPA, SAE, IEC, CIE, ISO)

GTB Is the major contributor to the development of lighting technical requirements

UN 1998 Agreement

Global Technical Regulations
(38 Contracting Parties)
0 Lighting & Signalling GTR's



Contracting parties include China and USA



1
2
3
4
5
6
7
8
19
20
23
27
31
38
50
56
57
69
70
72
76
77
80
87
91
98
10
4
11
2
11
3
11
9
1



NEW REGULATIONS

UN R148 “Light Signalling Devices”
UN R149 “Road Illumination Devices”
UN R150 “Retro-Reflective Devices”

INSTALLATION (Updated and Simplified)

R-48, R-53, R-74, R-86

LIGHT SOURCES

R-37, R-99, R-128
(Simplified structure with reference to a Resolution, R.E.5)

VARIOUS

R-10, R-45, R-65, R-88

GRE Informal WG

53 meetings SINCE 2014

GTB Provides Secretariat

STAGE 1
Reduction from 31 to 14 Live Regulations

STAGE 2
UPDATE REQUIREMENTS
Technology Neutral, Performance Based



In cooperation with GTB



OBJECTIVE:

BUILD CONSENSUS TO DEVELOP WORLDWIDE HARMONISED TECHNICAL REQUIREMENTS SUITABLE FOR ALL REGULATORY SYSTEMS



Consensus following DVN Workshop Tokyo – June 2018

Participants

- Korean vehicle manufacturers
- Japanese Automobile Parts Industry Association (JAPIA)
- India (ARAI)
- Chinese Lighting manufacturer
- Japanese Automotive Manufacturers Association (JAMA)
- Japanese Government (MLIT and Chair of WP29-AC3 (Administrative Committee for the UN 1998 Agreement))
- UNECE - GRE Chair



Written statements from:

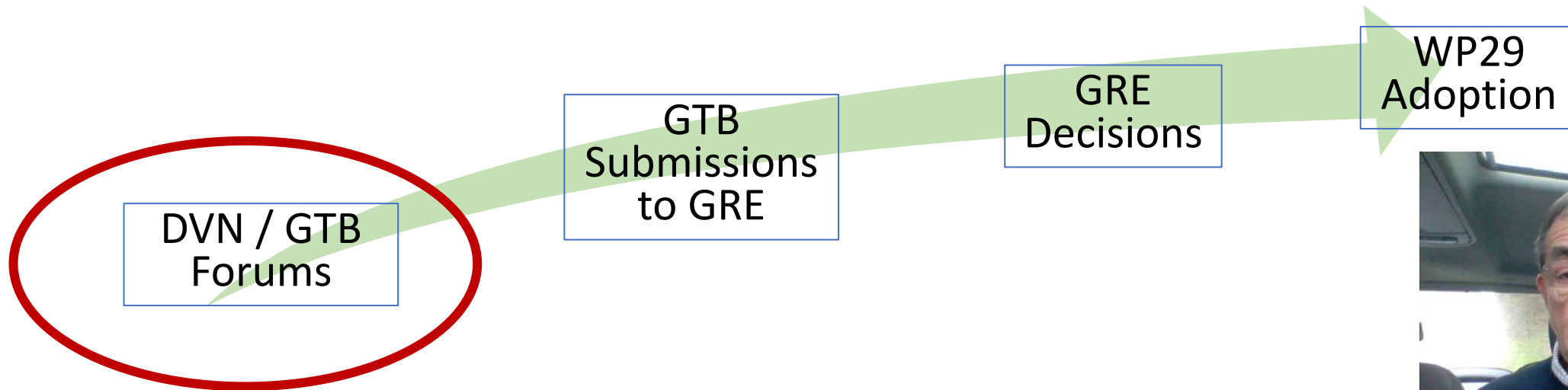
- China (CATARC)
- American Automotive Policy Council (representing Fiat Chrysler Automobile, Ford Motor Company and General Motors Company)
- The European Commission



GTB and DVN mutually beneficial cooperation since 2010



Two Important Pillars Working Together for Improved Regulation



Automotive Lighting Innovation Standardisation, Regulation, Harmonisation, and GTB / DVN



DVN Lidar Think Tank, Frankfurt, 22 February 2022



Geoffrey R Draper
Former GTB President
DVN Senior Advisor

