

*UN Vehicle Regulations Agreements  
World Forum for Harmonization of Vehicle Regulations,  
WP.29*

*1958 Agreement*



## Why does it matter?

### Why vehicle regulations (new vehicles) ?

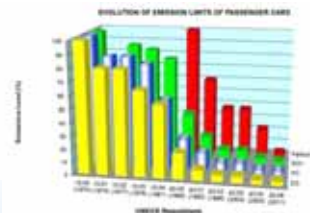
Several versions of a given model are built, because:

- Left Hand Drive
- Right Hand Drive
- The US/Canada version
- The Rest of the World (e.g. for countries with low fuel quality)...



Same type  
Same model  
Same brut price

Different safety depending on national legal requirements (no airbags, lower quality material, less welding points, fewer structure components, etc...)



## Principal Elements of the 1958 Agreement

Eligible Contracting Parties to the 1958 Agreement:

Members of UN



56 Contracting Parties

The 1958 Agreement provides:

Legal framework for the adoption of uniform UN Regulations on vehicle approval  
(performance and test requirements, conformity of production and administrative provisions)

Reciprocal recognition of Type Approval  
Approved once and accepted everywhere (CPs)



## Principal Elements of the 1958 Agreement

- All vehicle parts and systems approved according to UN Regulations under the 1958 Agreement bear the unique **E**-marking **E63** for Nigeria



- The Type-Approval with an approval number and the approval date + test reports



## Principal Elements of the 1958 Agreement



- 1958 Agreement provides the **legal framework** for the establishment and amendment of harmonized technical **United Nations Regulations** for wheeled vehicle, equipments and parts,
- Conditions for **reciprocal recognition of approvals granted** on basis of these UN Regulations.
- Construction of **safer** and more **environmentally friendly** vehicles
- Today [150] UN Regulations annexed to the 1958 Agreement
- 56 Contracting Parties



## Principal objectives of the 1958 Agreement



- Better road safety and lower pollutant emissions
- Mutual recognition of type approvals under UN Regulations
- Elimination of technical barriers to trade
- Facilitation in elaboration of national vehicle regulations by applying UN Regulations
- Flexibility in application of UN Regulations (Country selects which UN Regulation and notifies)
- Keep pace with technological development (both administration, technical services but also national industry)
- Protect country and citizen from sub-standard vehicles by mandatory applying UN Regulations



## Main Provisions of the 1958 Agreement



- **Legal framework** to establish UN Regulations and amendments to existing ones for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles;
- New UN Regulations and amendments to existing UN Regulations are established by a vote of **four-fifths majority** of contracting parties;
- Contracting parties can **decide not to apply** the new UN Regulations and the amendments to existing ones;
- Contracting party that applies any UN Regulation is allowed to **grant type approvals** and is required to **accept type approvals** granted by any other contracting party applying it;
- Contracting parties granting type approvals are required to have the **technical competence** to ensure the performance of the tests and the competence to ensure conformity of production



## Main Provisions of the 1958 Agreement



- 8 Schedules of Administrative and Procedural Provisions:
  - Schedule 1: Conformity of production procedures
  - Schedule 2:
    - Part one: Assessment, designation and notification of technical services
    - Part two: Standards which the technical services shall comply with
    - Part three: Procedure for the assessment of technical services
  - Schedule 3: Procedures for UN type approvals
  - Schedule 4: Numbering of UN type approvals
  - Schedule 5: Circulation of approval documentation (DETA and Unique Identifier UI)
  - Schedule 6: Procedures for resolving interpretation issues
  - Schedule 7: Procedure for exemption approvals concerning new technologies
  - Schedule 8: General conditions for virtual testing methods



## Main Provisions of UN Regulations

- The UN Regulations annexed to the 1958 Agreement shall include:
  - (a) Technical performance based requirements;
  - (b) Test methods by which performance requirements are verified;
  - (c) The conditions for granting type approvals;
  - (d) The conditions for the reciprocal recognition of the type approvals;
  - (e) Provisions for the marking of vehicles, their equipment and parts to identify and verify the vehicles to be registered;
  - (f) The conditions for ensuring the conformity of production (COP);
  - (g) Conditions for in service conformity;
  - (h) Conditions for recyclability of vehicles.



## Type Approval Procedure

- Manufacturer shall address an application to the Type Approval Authority
- tests are conducted by an accredited Technical Service
- the Type Approval Authority grants the type approval, if test results comply with the requirements
- the type approval is mutually recognized by all other CPs applying that UN Regulation
- the manufacturer may bring his E-marked product to the market without any further tests
- the manufacturer and the Type Approval Authority have to ensure the conformity of production according to the provisions of the UN Regulation



# UN Regulations Direct Impact

## Example UN Regulation No. 22 Motorcycle Helmets



## Why wear a helmet?



A motorcycle crash may result in head injuries, either through direct contact with hard objects or as a result of excessive acceleration-deceleration. The most traumatic brain injuries are closed head injuries, when there is no open wound. When your head hits the pavement or the ground your brain is going to move forward, hitting up against the bones inside the skull. It's going to deform. It's going to stretch and tear nerve fibers. The torn ones cannot heal. When you lose a brain cell, there is no replacement for it. That's where permanent damage occurs.

***Always wear a helmet when riding your motorbike and make sure your passenger is wearing one too.***

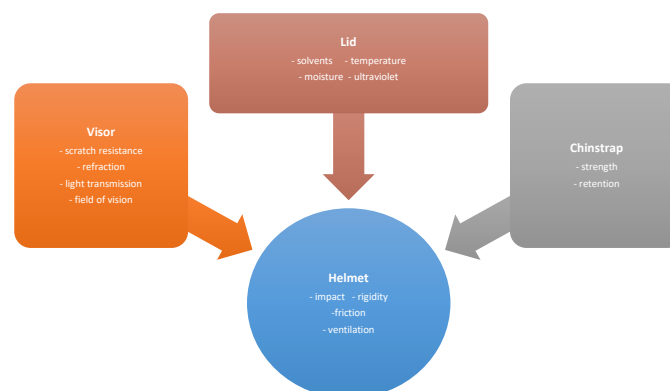


## Background

- Between 2008 and 2020, 3.4 million fatalities may be caused by motorcycle crashes, 3 per cent of which could be children.
- Wearing and proper use of motorcycle safety helmets can save 42 per cent of lives and avoid 69 per cent of injuries to riders.
- In low and lower-middle income countries motorcycles are often the first or only form of motorized transport.



## Regulation No. 22 requirements and tests for helmets



## Procedure for implementing UN Regulation No. 22 (1)

- 44 Contracting Parties around the world are signatory of UN Regulation No. 22 including Nigeria.
- Since its establishment in 1972 testing methods have been developed over time, becoming more precise and more stringent.
- Need to obtain repeatable results, particularly in different test centres.
- Reproduce tests representing real world crashes.
- Now Regulation No. 22 is considered one of the most demanding ones worldwide.



## Procedure for implementing UN Regulation No. 22 (3)

Phased Approach: rungs of a “ladder of protection”.

Countries can adopt on a national basis the full text of the original version of the Regulation, including the 02 series of amendments as an intermediate step on the path to reach the 05 series of amendments (latest one).

This would encourage countries to strive for the highest level of stringency of the Regulation. They may also decide to accede to the 1958 Agreement.





## How to identify of UN Regulation 22 approved helmets



## E-mark explanations

**E** = ECE Reg. No. 22; **2** = certified by French Authority;  
**051018** = ECE Reg. No. 22 **05** series of stringency, with  
 Approval Number **1018** issued in France;

**P** = "Protective", i.e. chin bar tested and  
 approved as a protective full-face helmet;



**J** – Although not visible in this example,  
 would for instance signify "Jet" style open face approval;

**320678** = Batch Test control number – identifies  
 the production batch for which test results are available.



## International Whole Vehicle Type Approval (IWVTA)

- Definition: “International whole vehicle type approval” means that all type approvals granted pursuant to applicable UN Regulations for the systems, components and parts of a vehicle are integrated into a single approval of the whole vehicle according to the administrative provisions of UN Regulation No. 0
- Scope: First step is the IWVTA of category M1 vehicles (passenger cars)
- Structure:
  - ❑ New UN Regulation No. 0 on IWVTA (listing all UN Regulations to which the type of vehicle has to comply with)
  - ❑ New “Schedules” under the 1958 Agreement (Annex with a list of administrative and technical procedures).



## Elements of IWVTA

Number	Type	Version of UN Regulation	
		UN Regulation <sup>1</sup>	Series of amendments <sup>2</sup>
1	Retro-reflecting devices for power-driven vehicles and their trailers	3	02
2	Devices for the illumination of rear registration plates of power-driven vehicles and their trailers	4	00
3	Direction indicators for power-driven vehicles and their trailers	6	01
4	Front and rear position lamps, stop-lamps and end-outline marker lamps for motor vehicles and their trailers	7	02
5	Vehicles with regard to electromagnetic compatibility	10	05
6	Vehicles with regard to door latches and door retention components	11	04
7	Vehicles with regard to the protection of the driver against the steering mechanism in the event of impact	12	04
8	Brakes of M <sub>1</sub> and N <sub>1</sub> vehicles	13-11	01
9	Vehicles with regard to safety-belt anchorages	14	05

Number	Type	Version of UN Regulation	
		UN Regulation <sup>1</sup>	Series of amendments <sup>2</sup>
10	Safety-belts, restraint systems, child restraint systems and ISOFIX child restraint systems	16	07
11	Vehicles with regard to the seats, their anchorages and any head restraints	17	08
12	Power-driven vehicle front fog lamps	19 <sup>2</sup>	04
13	Vehicles with regard to their exterior fittings	21	01
14	Reversing and manoeuvring lamps for power-driven vehicles and their trailers	23	00
15	Vehicles with regard to their external projections	26	03
16	Audible warning devices and of motor vehicles with regard to their audible signals	28	00
17	Pneumatic tyres for motor vehicles and their trailers (Tyres should be type approved to UN Regulation No. 30 or UN Regulation No. 54.)	30	02
18	Vehicles with regard to the prevention of fire risks	34	03
19	Rear fog lamps for power-driven vehicles and their trailers	38	00
20	The speedometer and odometer equipment including installation	39	01
21	Safety glazing materials and their installation on vehicles	43	01
22	Restraint devices for child occupants of power-driven vehicles (only as much as it relates to built-in vehicle booster cushions but not covering standalone child seats)	44 <sup>2</sup>	04
23	Headlamp cleaners, and of power-driven vehicles with regard to headlamp cleaners	45 <sup>2</sup>	01
24	Devices for indirect vision including installation	46	04
25	Installation of lighting and light-signaling devices	48	06



# Elements of IWVTA

Number	Topic	Version of UN Regulation	
		UN Regulation <sup>1</sup>	Series of amendments <sup>2</sup>
26	Motor vehicles having at least four wheels with regard to their sound emissions	53	01
27	Pneumatic tyres for commercial vehicles and their trailers (Tyres should be type approved to UN Regulation No. 55 or UN Regulation No. 74.)	54	00
28	Rear Underseat Protection Device (RUPD) and the installation of a RUPD of an approved type, Rear Underseat Protection (RUP)	58	01
29	A temporary-use spare unit, run-flat tyres	64	01
30	Parking lamps for power-driven vehicles	77	00
31	Vehicles with regard to steering equipment	79	01
32	Internal combustion engines or electric drive trains intended for the propulsion of motor vehicles of categories M and N with regard to the measurement of the net power and the maximum 10 minute power of electric drive trains (Engine power)	81	00
33	Daytime running lamps for power-driven vehicles	87	00
34	Side marker lamps for motor vehicles and their trailers	91	00
35	Protection of occupants in the event of a frontal collision	94	01
36	Protection of occupants in the event of a lateral collision	95	01
37	Motor vehicle headlights equipped with gas-discharge light sources	98	01
38	Vehicles with regard to specific requirements for the electric power lines	106	01
39	Motor vehicle headlights emitting an asymmetrical passing beam or a driving beam or both and equipped with filament lamps and/or LED modules	112	01
40	Tyres with regard to rolling noise emissions and/or to adhesion on wet surfaces and/or to rolling resistance	121	01

Number	Topic	Version of UN Regulation	
		UN Regulation <sup>1</sup>	Series of amendments <sup>2</sup>
41	Cornering lamps for power-driven vehicles	119*	01
42	Vehicles with regard to the location and identification of hand controls, tell-tales and indicators	121	01
43	Adaptive Front-lighting Systems (AFS) for motor vehicles	123*	01
44	Motor vehicles with regard to the forward field of vision of the motor vehicle driver	125	01
45	Motor vehicles with regard to their pedestrian safety performance	127	02
46	Brake assist systems	139	00
47	Electronic stability control systems	140	00
48	Tyre pressure monitoring systems	141	00
49	Tyre installation	142	00



## Useful Information

- WP.29 Website  
<http://www.unece.org/trans/main/welcwp29.html>

**UN Vehicle Regulations - 1958 Agreement**  
**Addenda to the 1958 Agreement (Regulations 21-48)**

**Important Note:**  
 1. Technical regulations presented in boldface format on this document are Regulated Items. 2. Blue links are for online or open systems which contain additional information and display dynamically (click here).

20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48

**Regulation No. 20 - Rec. 2 - Tyres for passenger cars and their trailers**  
 English: 2020R 020-2  
 French: 2020R 020-2  
 Russian: 2020R 020-2

**Regulation No. 20 - Rec. 2 - Amend. 1**  
 English: 2020R 020-2  
 French: 2020R 020-2  
 Russian: 2020R 020-2

**Regulation No. 20 - Rec. 2 - Amend. 2**  
 English: 2020R 020-2  
 French: 2020R 020-2  
 Russian: 2020R 020-2

**Regulation No. 20 - Rec. 2 - Amend. 3**  
 English: 2020R 020-2  
 French: 2020R 020-2  
 Russian: 2020R 020-2

**Regulation No. 20 - Rec. 2 - Amend. 3 - Eplan.1**  
 English: 2020R 020-2  
 French: 2020R 020-2  
 Russian: 2020R 020-2

**Regulation No. 20 - Rec. 2 - Amend. 4**  
 English: 2020R 020-2

- Agreements and Regulations
- UN Regulations (1958 Agreement)
- Text of the 1958 Agreement
- UN Regulations (Addenda to the 1958 Agreement)
- Status of the 1958 Agreement (and of the annexed regulations)
- Requirements for designated Technical Services

**UNECE TRANSPORT AREA OF WORK VEHICLE REGULATIONS**

**Vehicle Regulations**

**Introduction**  
 World Forum for the harmonization of vehicle regulations (WP.29)  
 The UNECE Sustainable Transport Division provides the secretariat services to WP.29, the world forum that incorporates into its regulatory framework the technological innovations of vehicles to make them safer and more environmentally sound.

**WP.29** **Q&A** **Meetings** **Regulations** **Data sharing**

**News**  
 Draft regulation will aim to reduce cyclist and pedestrian deaths caused by trucks' blind spots. 14 October 2018  
 UNECE adopts resolutions on the deployment of highly and fully automated vehicles in road traffic. 09 October 2018

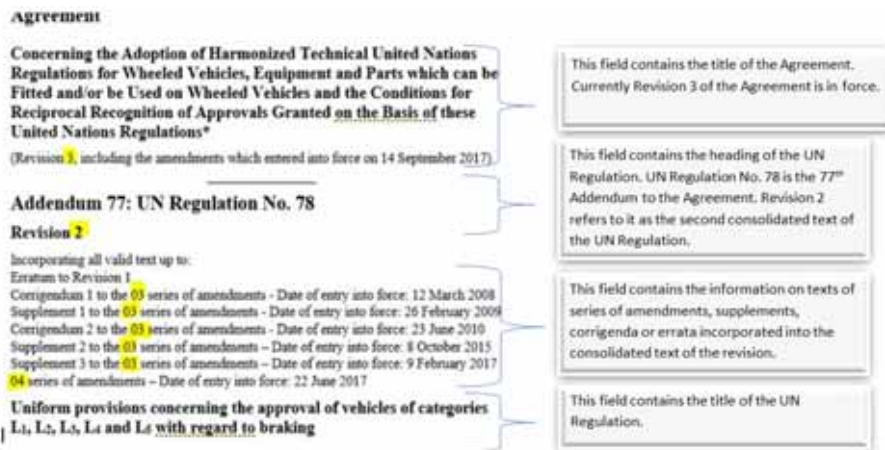
**Highlights**  
 Note 2 for **UNECE 2018 events** - **RETURN**  
 Note for drivers at the **Falco** test facilities: new security measures. 2  
 See our **ChA** testbed systems user guide 2 (ES 4.17.1-NR2) and **Motorcycle helmet** user guide 2 (NR2.1).

**Events**  
 WP.29/GRE Working Party on Lighting and Light Signaling (6th session) 23 to 28 October 2018  
 UNECE 2018/21 Administrative Committee for the Coordination of Work (128th session) 12 November 2018  
 WP.29 World Forum for the Harmonization of Vehicle Regulations (17th session) 23 to 16 November 2018  
 WP.29/GRE Working Party on Harmonized Safety (10th session) 11 to 14 December 2018  
 WP.29/GRE Working Party on Pollution and Energy (10th session) 06 to 17 January 2019



## Useful Information

- Explanation of UN Regulation front page



## Useful Information

1958 Agreement Status Document ECE/TRANS/WP.29/343/Rev.XX

- Information on application of UN Regulations by Contracting Parties
- Information on notified Type Approval Authorities per Country and UN Regulation
- Information on designated Technical Services per Country and UN Regulation

[https://apps.unece.org/WP29\\_application/](https://apps.unece.org/WP29_application/)

- List of status of official documents and entry into force of UN Regulations and their amendments.

<http://www.unece.org/fileadmin/DAM/trans/main/wp29/wp29regs/2018/ECE-TRANS-WP.29-343-Rev.26-June.pdf>



## Vehicle approval / certification

### What elements should be covered ?



## National type approval (example)



### TYPE APPROVAL CHECK-LIST

Item	System/part approval	Comment
<input type="checkbox"/> Manufacturer <input type="checkbox"/> authorized representative <input type="checkbox"/> power of attorney		
<input type="checkbox"/> Identification: type designation identification mark VIN composition		Manufacturer declaration  Place of VIN
<input type="checkbox"/> Construction Kind of vehicle / body	R.E.3   UN Reg 21, 26, 61	pictures / drawings
seating-standing positions strength of partition (VI) <input type="checkbox"/> Plastic parts <input type="checkbox"/> underseal protection (Front/lateral/rear)	UN Reg. 107 UN Reg 126  UN Regs 42, 58, 73, 83	
<input type="checkbox"/> Weights/masses mass in running order load / payload maximum permissible mass Payload Maximum permissible axle loads Vertical load of coupling point Maximum towable mass		Manufacturer declaration or weighing results  Scheme of axle load calculation   cross check with brake system and coupling device

<input type="checkbox"/> Axles suspension and springs off-road design	R.E.3	Manufacturer declaration Drawings test report
<input type="checkbox"/> Maximum design speed		Manufacturer declaration / test report for category L1 and T Cross check with tires and noise
<input type="checkbox"/> Wheels and tires also rims  Tyre pressure monitoring	UN Regs 30, 54, 75, 117 UN Reg 124 UN Reg 142 UN Reg 141	Cross check with axle load and maximum design speed
<input type="checkbox"/> Dimensions (vehicle) <input type="checkbox"/> Diameter of turning crank	R.E.3 UN Reg 79	Manufacturer declaration / Drawings
<input type="checkbox"/> Engine technical specifications emission after treatment systems ECU / Software Nr engine power curve exhaust emissions evaporate emissions absorption coefficient engine compartment	UN Regs 24, 40, 47, 49, 67, 83, 85, 96, 101, 110, (115), 120,          UN Reg 118	Cross check with vehicle mass, tyres, noise, power transmission, brake system, electromagnetic inter- ference
<input type="checkbox"/> fuel tank <input type="checkbox"/> Exhaust / intake silencer muffler		Cross check with engine, maximum design speed, power transmission
<input type="checkbox"/> operating/driving/standing noise <input type="checkbox"/> low noise (N2/N3)	UN Reg 51, 92, 138	



# National type approval (example) cont.



○ Power transmission power flow power ratios		Transmission ratios; cross check with engine, noise, tyres, maximum design speed
○ Brake systems brake scheme service brake secondary brake system parking brake retarder trailer braking system brake pads brake efficiency brake fluid reservoir	UN Reg 13, 13H, 78,	cross check with power transmission, engine, noise, tyres, maximum design speed, electromagnetic interference
○ AEBS ○ BAS ○ ESC	UN Reg 131, UN Reg 139 UN Reg 140	
○ Steering / steering wheel/handle bar	UN Reg 79, 62	
○ Heating device / demisting device	UN Reg 122	
○ Warning signals optical acoustically	UN Reg 6, 48 UN Reg 28,	
○ Electromagnetic interference	UN Reg 10	cross check with power transmission, engine, noise, tyres, maximum design speed, brake systems

○ Pressure vessel (air)		Cross check with brake system
○ Passive safety: Door locks seats / headrests Seatbelts / Iso-fix front impact rear impact lateral impact pedestrian protection	UN Reg 11, 12, 14, 16, 17, 29, 44, 66, 94, 95, 127, 134, 135, 136, 137, 145, 146	
○ Towing of trailers coupling device	UN Reg 55, 102, 147	Cross check with weights, brake system
○ Glazing transparent panels ○ Field of vision	UN Reg 43 UN Reg 125	
○ Lights and lightning devices	UN Reg 48, 53, 74	
○ Headlight adjustment	UN Reg 48, 125	
○ washing-wiper system		
○ Recyclability	UN Reg 133	
○ Side stand (L) ○ foot rests (L)	RE 3	Manufacturer declaration Drawings test report
○ Protection frame (T)		OECD approval
○ Divers seat (T)		OECD approval
○ Passenger seat (T)		OECD approval
○ Approval marks		Cross check approval numbers/marks with documentation
○ Deviations from standard vehicles		
○ exemptions		
○ National type approval number		
○ Conditions for use		



# The most important UN Vehicle Regulations to make a change to road safety



Topic	Passenger cars	PTWs	Commercial vehicles
	UN Regulation	UN Regulation	UN Regulation
<b>Active safety</b>			
Brakes	R13 H (incl. ABS)	R 78 (incl. ABS) GTR 3	R 13 (incl. EVSC)
Electronic Stability Control	R 140 GTR 8		
Steering	R 79		R 79
Tyres	R 30/ GTR 16	R75	R 54
Mechanical couplings			R 55
<b>Passive safety</b>			
Helmets		R22	
Safety belts anchorages	R 14		R 14
Safety belts	R 16		R 16
Seats/ head restraints	R 17, R 25/ GTR 7		
Frontal collision	R 94		
Lateral collision/ pole side impact	R 95,		
Pedestrian safety	R 135/ GTR 14		
Child restraints	R 127/ GTR 9		
Child restraints	R 44		
Electric PTW safety		R 136	
Cabs strength			R 29
<b>General safety</b>			
Buses and coaches			R 107
Safety glazing	R 43/ GTR 6		R 43
Devices for indirect vision			R 46
Underrun protection			R 58 R 93
<b>Lighting and light installation</b>			
Installation of lighting	R 48	R 53, R 74	R 48





## The most important UN Vehicle Regulations to make a change to road safety



Topic	Passenger cars UN Regulation	PTWs UN Regulation	Commercial vehicles UN Regulation
Active safety			
Brakes	R13 H (incl. ABS)	R 78 (incl. ABS) GTR 3	R 13 (incl. EVSC)
Electronic Stability Control	R 140/ GTR 8		
Steering	R 79		R 79
Tyres	R 30/ GTR 5	R75	R 54
Mechanical couplings			R 55
Passive safety			
Helmets		R 22	
Safety belts anchorages			R 14
Safety belts	R 16		R 16
Seats/ head restraints	R 17, R 25/ GTR 7		
Frontal collision	R 13		
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Pedestrian safety	R 127/ GTR 9		
Child restraint	R 129		
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THANK YOU  
FOR YOUR ATTENTION

UNECE Sustainable Transport Division

<http://www.unece.org/trans/main/welcwp29.html>

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