









**Three-step approach for Harmonisation of
(passive) safety requirements under GRSP
of bodied, heavy quadricycles (L7)**

Introduction

- There is a wide variation of different styles of L7 vehicles.
- Some are very 'car-like' in that they are equipped with a body and some car features. Typically, such vehicles are relatively fuel efficient, some electric powered.
- The car-like nature of heavy passenger quadricycles (L7) may lead to expectation that they provide similar standard safety performance as a small passenger car hence the attention to improve the vehicle passive safety.
- Consolidated Resolution on the Construction of Vehicles (R.E.3) defines L7 as:
 - 2.1.7. "*Category L₇*": A vehicle with four wheels, other than that classified for the category L₆, whose unladen mass is not more than 400 kg (550 kg for vehicles intended for carrying goods), not including the mass of batteries in the case of electric vehicles and whose maximum continuous rated power does not exceed 15 kW.
- In India, the Q-category was created recently, and safety requirements were published.
- In Korea, Safety Regulations on Micro Mobility incl. L7-category were recently implemented.
- Quadricycles are not covered under S.R.1.

Great diversity L7-category vehicles

- EU:** Regulation 168/2013 distinguishes ATVs (L7-B1), Side-by-Side (L7-B2) and commercial (L7e-CU) and passenger (L7e-CP) quadricycles.
 - L7-A hardly exist today on the market.
- India:** Introduction (2014) of Q-category with fully enclosed body structure, with specific requirements for goods and passenger quadricycles (G.S.R. 99(E))
- Korea:** see GRSP-65-23

L7e			
Heavy quadricycle			
L7e-A	L7e-B1	L7e-B2	L7e-C
Heavy on-road quad	All terrain quad	Side By Side Buggy	Heavy quadri-mobile
 <div style="display: inline-block; border: 1px solid black; padding: 2px;">L7e-A1</div>  <div style="display: inline-block; border: 1px solid black; padding: 2px;">L7e-A2</div>			 <div style="display: inline-block; border: 1px solid black; padding: 2px;">L7e-CU</div>  <div style="display: inline-block; border: 1px solid black; padding: 2px;">L7e-CP</div>
Regulation 168/2013/EU & Delegated and Implementing Acts			
4000 x 2000			3700 x 1500 mm
15 KW	-	15 KW	15 KW
	90 km/h	-	90 km/h
< 450 kg for transport of passenger < 600 kg for transport of goods			
max. 2	max. 2	max. 3	max. 4

Next steps

- Recently in GRSP, Consumer International and Global NCAP raised need to address crash safety of car-like passenger quadricycles (L7) through UN Regulation No. 137.
- IMMA supports the direction to include bodied heavy passenger L7-category vehicles into UN Regulation No. 137 (Frontal impact with focus on restraint systems), **but prior to this**, the existing, applicable legislation for bodied L7 vehicles should be harmonised worldwide (e.g., EU, India, Korea, ...) to clarify key differences with M1-category (car) vehicles.
- **First step**, introduce and harmonise dimension criteria in R.E.3, (April 2020 GRSG-session)
- **Second step**, based on analysis of requirements in key markets (Europe, India, Korea, ...), develop proposals for three new UN Regulations addressing bodied passenger L7-category vehicles
 - Uniform provisions concerning the approval of vehicles with regard to **doors**
 - Uniform provisions concerning the approval of vehicles with regard to **interior fittings**
 - Uniform provisions concerning the approval of vehicles with regard to **seats and seat belt anchorages**
- **Third step**, development of a proposal to amend UN Regulation No. R137 to include ad hoc requirements including an adapted test (e.g. reduced speed) for bodied L7 vehicles.

First step (118/GRSG, April 2020): Introduce L7 dimension criteria in R.E.3

- Maximum dimensions for 'heavy quadri-mobile for passenger transport' («car-like» quadricycles)
 - Korea: L: 3.6 m W: 1.5 m H: 2.0 m
 - EU: L: 3.7 m W: 1.5 m H: 2.5 m
 - India: L: 3.0 m W: 1.5 m H: 2.5 m
 - ...
- **Draft harmonisation proposal for R.E.3:**
 - Specify separation between passenger and goods L7 quadricycles
 - Introduce maximum dimensions for passenger L7 quadricycle: L x W : 3.7 metre x 1.5 metre

Appendix

- References EU

- *Seats: Commission Delegated Regulation (EU) 3/2014, Annex XIII,*
- *Interior fittings: Commission Delegated Regulation (EU) 3/2014, Annex XVII Part 1,*
- *Vehicle doors: Commission Delegated Regulation (EU) 3/2014, Annex XVII Part 2*

- References India

- *AMENDMENT NO. 3, 2 May 2017 to AIS-096 (e.g. 5.1 When the vehicle in running order, without a manikin is collision tested against a barrier at a speed of 35 km/h in case quadricycle of category L7 and 48.3 km/h for other vehicles, as per Annex 1.)...*
- ...

- References S. Korea

- *GRSP-61-24, Korea Micro Mobility Plans*
- *GRSP-65-23, Progress*



Thank you for your attention