

GRBP Priorities based on WP 29 ECE/TRANS/WP.29/1159, annex VI., GRBP 74-38 and special GRBP meeting on priorities held on the 6<sup>th</sup> of October 2021.

GRBP							
N°	Title	Tasks / Deliverables	References	Allocations / IWGs	Timeline	Chair/Initiator	Comments
1	Real Driving Additional sound emission Provisions (ASEP)	Real driving sound emissions and the extended work of IWG ASEP such as manipulation-safe active components and software, anti-tampering, ASEP NORESS	UN-R51, R41	IWG ASEP	<ul style="list-style-type: none"> <li>• <u>GRBP-74 (Sept.2021)</u>: Informal Doc. for amendments to UN-R51-04</li> <li>• <u>GRBP-75 (Feb.2022)</u>: Working Doc. UN-R51-04 (M<sub>1</sub>, N<sub>1</sub> vehicles)</li> <li>• <u>GRBP [2023/2024]</u>: UN-R41 2nd step</li> <li>• <u>GRBP [2023/2024]</u>: UN-R59 &amp; R92</li> </ul>	Chair: Germany  Secretariat: OICA	M <sub>1</sub> , N <sub>1</sub> L <sub>3</sub> and their NORESS  To be extended to other regulations
2	Wet Grip on Worn Tyres (WGWT)	Additional prescriptions regarding performances on Wet Grip of Worn Tyres to be added in UN-R117.	UN-R117	IWG WGWT	<ul style="list-style-type: none"> <li>• <u>GRBP-74 (Sept.2021)</u>: Working Doc. for amendments to UN-R117 on C1 tyres</li> <li>• <u>GRBP-76 (Sept.2022)</u>: Working or informal Doc. for amendments to UN-R117 on C2, C3 tyres</li> <li>• <u>GRBP-76 (Sept.2022)</u>: Working Doc. for Suppl. 1 to R117 03 series on C1 tyres (molded worn tyres)</li> </ul>	Co-Chairs: France & European Commission  Secretariat: ETRTO	Through a new Series of amendment. For reminder, work on worn tyres linked to EU GSR2 (Reg. (EU) 2019/2144).
3	Measurement Uncertainties	Assessment of measurement uncertainties and track alignment	UN-R51 UN-R117 UN-R41 UN R 138	IWG-MU	<u>GRBP-74 (Sept.2021)</u> : <ul style="list-style-type: none"> <li>▪ Working Doc. for UN R 51 as Suppl.7</li> <li>▪ Informal Doc. containing general Guidelines</li> </ul> <ul style="list-style-type: none"> <li>• <u>GRBP-75 (Feb.2022)</u>: <ul style="list-style-type: none"> <li>▪ Working Doc. for UN-R51 as Suppl.8</li> </ul> </li> </ul>	Chair: Norway  Secretariat: OICA:	R 51: Noise R117: Noise Other regulations: Deadline to be defined

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N°	Title	Tasks / Deliverables	References	Allocations / IWGs	Timeline	Chair/Initiator	Comments
					<ul style="list-style-type: none"> <li>▪ Informal Doc. for amendments to UN-R117</li> <li>▪ Working doc containing general Guidelines</li> <li>• <u>GRBP-76 (Sept. 2022)</u>: Working Doc. for UN-R117 (Tyre Noise step 1)</li> </ul>		For tyres, WG & RR to be considered in a Step 2
4	Reverse Warning Sound (RWS)	Harmonization of Reverse Warning Sound requirements (Components and vehicles) with the aim of lower sound emissions on a high safety level	New Regulation	TF-RWS	<ul style="list-style-type: none"> <li>• <u>GRBP-74 (Sept.2021)</u>: informal Doc.</li> <li>• <u>GRBP-75 (Feb.2022)</u>: working Doc.</li> </ul>	Chair: Japan Secretariat: OICA	M2>3,5tons, N2, M3, N3 MOIS, Reversing Safety, Camera Monitor systems as an alternative to RWS
Other priorities 2022							
5	Vehicles' Sound	Technical review	UN-R51, R9, R28, R41, R59, R63, R92, R117, R138, Future UN Reg. RWS	TF-VS	To be discussed in TF-VS	Chair: France Secretariat: OICA	M, N, L TF-SL (Sound Limits) renamed TF-VS (Vehicles Sound).
6	Revision of the existing traction tyre definition	Introduction of a revised traction tyre definition for C2 and C3 tyres	UN-R117	GRBP	<u>GRBP-76 (Sept.2022)</u> : Working Doc.	ETRTO	C2, C3 See previous Informal document GRBP-70-19. Impact on UN-R51 to be checked (deadline tbd. for such impact).

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N°	Title	Tasks / Deliverables	References	Allocations / IWGs	Timeline	Chair/Initiator	Comments
7	New radial tyre definition	Proposal to introduce new Radial Tyre definition	UN-R30	GRBP	WP29 (Nov.2022)	Proposal by France & EC at GRBP-72	Ensure consistency between UN Regs and UN GTRs under 1958 and 1998 Agreements respectively to avoid mismatch in definitions (e.g. UN-R30 vs. US-standard). US & Canada are assessing impact → to be followed at next GRBP (Feb. / Sept..2022 tbc)
8	New ice tyre definition	ERTRO Proposal to introduce in UN Regulation No.117 an Ice tyre definition for tyres of C1 class.	Amendment to UN-R117	GRBP	Adopted at GRBP-74 (Sept.2021) for R117. WP.29 March 2022	ETRTO	Ensure consistency between UN Regs and UN GTRs under 1958 and 1998 Agreements respectively. (Under consideration for GTR).
New priorities							
9	Measurement Uncertainties	Application to other regulations than UN-R51 and R117	UN-R41, R59, R63, R92, R138, R28 R30, R54, R117, etc.	IWG MU - To continue to work under this group	<ul style="list-style-type: none"> <li>GRBP-77 (Jan.Feb.2023): Working Doc.</li> <li>WP 29 June or November 2023</li> </ul>	Chair : Norway  Secretariat : OICA	Other regulations: Deadline to be defined Create priority list of UN Regs and not only limited to sound emission issues. Proposal to cluster the regulations per subject UN R138 and Draft WGWT test procedure.

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N°	Title	Tasks / Deliverables	References	Allocations / IWGs	Timeline	Chair/Initiator	Comments
10	Revision of UN-R138 -AVAS	Ensure compatibility/ consistency between UN R138 and Draft UN R51.04 RD-ASEP Define clear AVAS operation range. Ramp-up max. sound level curve under any driving condition to establish a handshake between UN R138 maximum sound and RD-ASEP of UN-R51. Review of UN-R138 for AVAS (technical, language, consistency, interpretation ...)	UN-R138 Draft UN-R51-04	New IWG, or existing IWG AVAS to be reactivated.  Work shared with IWG MU & IWG RD-ASEP	<ul style="list-style-type: none"> <li>• <u>GRBP-76 (Sept.2022)</u>: Informal Doc.</li> <li>• <u>GRBP-77 (Jan.Feb.2023)</u>: Working Doc.</li> </ul>	Chair: Secretary  See IWG RD-ASEP & MU	<p>To be considered:</p> <ul style="list-style-type: none"> <li>- In a 2<sup>nd</sup> step L cat.</li> <li>- Non-sound emission devices as new safety features, replacing AVAS.</li> <li>-US FMVSS 141 &amp; UN-R138 AVAS.</li> </ul> <p>Review sound specifications &amp; test conditions.</p> <p>ISO 16254 Technical results expected</p>
11	Interaction UN-R51 & UN-R117	Influence of tyres --> revision of UN-R117 vs. urban speeds to ensure tyres approved within the speed range which is aligned for both UN-R51 and UN-R117. Interactions between UN-R51 and UN-R117 to be achieved/improved by a step-by-step approach.	UN-R117 UN-R51	GRBP	Informal Doc. for GRBP in 2022		With increased market penetration of EVs and according to the current forecast (especially due to the increase of the vehicle's weight with suitable tyres), to be considered in the future
12	Special Purpose Vehicle	Adaptation of the prescriptions of measurement procedure for Special Purpose Vehicles, (SPV) like mobile cranes etc at UNECE level	UN-R51 RE.3	GRBP	<ul style="list-style-type: none"> <li>• <u>GRBP-75 (Feb.2022)</u>: General presentation</li> <li>• To be worked at the ISO level: Work to start in March-April 2022.</li> </ul>	../ OICA, EC	SPV like mobile cranes etc are not covered by UNECE, only inside EU Framework Regulation 2018/858.

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N°	Title	Tasks / Deliverables	References	Allocations / IWGs	Timeline	Chair/Initiator	Comments
					<ul style="list-style-type: none"> <li>For a proposal to be presented at GRBP Sept.2024 at the latest.</li> </ul>		<p>Deadline on EU side currently scheduled in 07/2027.</p> <p>Impact at least on noise limit values.</p>
13	Reference test track	Influence of surfaces on real sound emissions of the vehicles vs. ISO test track	All regulations concerned by	GRBP		... / Germany Secr : OICA	<p>GRBP should take into account the test surfaces even if GRBP is not directly in charge of them and see how to manage these road surfaces.</p> <p>Other parties should be involved in this topic as EC DG/ENV.</p>
14	Tyre Abrasion Test method development	Microplastics from tyres, including: Method for rating tyres based on their abrasion performance. enabling the quantification of microplastic emissions from tyres. investigating correlation between abrasion rate and durability of tyres.	Current regulation or new regulation	Task Force or/and IWG to be initiated in 2022	Expected by 2023	Chair: ...  Secretariat: ETRTO	<p>C1</p> <p>Taken into account through (EU) 2020/740 Regulation.</p> <p>Introduction in current UN regulations and/or new regulation under GRBP?</p>
15	Wet grip new tyres C1	New limits	UN-R117	GRBP	<ul style="list-style-type: none"> <li>GRBP-75 (Feb.2022): Informal Doc.</li> <li>GRBP-76 (Sept.2022): Working Doc.</li> <li>WP29 March 2023: Working Doc. <ul style="list-style-type: none"> <li>EIF Oct 2023</li> </ul> </li> </ul>	ETRTO	<p>Both safety &amp; env. will have to be considered.</p> <p>Cross-check between all tyre performances aiming to achieve the optimal values of tyre performance regulated parameters</p>

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N°	Title	Tasks / Deliverables	References	Allocations / IWGs	Timeline	Chair/Initiator	Comments
16	New rolling resistance limits	Impact of tyres on exhaust emissions of vehicles and overall vehicle energy efficiency and CO2 targets	UN-R117	GRBP	<ul style="list-style-type: none"> <li>• <u>GRBP-75 (Feb.2022)</u>: Informal Doc</li> <li>• <u>GRBP-76 (Sept.2022)</u>: Working Doc.</li> <li>• <u>WP29 (March 2023)</u>: Working Doc <ul style="list-style-type: none"> <li>○ EIF Oct 2023</li> </ul> </li> </ul>		C1, C2, C3 new tyres Linked to GRPE (low rolling resistance vs. WLTP). Cross-check between all tyre performances aiming to achieve the optimal values of tyre performance regulated parameters
17	Expand the scope of UN-R28 for new functions	Review UN-R28 and cross-references to other UN Regulations, provide definitions and specifications (if needed); review Communication Form; check for application of UI	UN-R28, UN-R97, UN-R138, UN-R1xx (RWS), EU-NCAP Roadmap 2025	GRBP IWG or TF	<u>GRBP-76 (Sept.2022) or 77 (Jan.Feb.2023)</u> : Working Doc.	Chair: ... Secretary: OICA	Need for a group to be discussed during GRBP-75. EU-NCAP with plan for 'child presence' inside the car. Sound outside of the vehicles.
18	Review Sound specification of other UN Regulations. Doc. for reference regarding interior sound specification of various UN Regulations (UN-R158, ...)	Interior Sound Specifications for sonar systems according UN-R158	UN-R158, UN-R13H, UN-R16 UN-R48, UN-R79 UN-R100, UN-R131 UN-R152, Other?	GRBP IWG or TF	<u>GRBP-76 (Sept.2022) or 77 (Jan.Feb.2023)</u> : Report	Chair: ... Secretary: OICA	Need for a group, to be discussed during GRBP-75
		Prepare uniform consideration, when interior sound shall be mandated by a UN Regulation for safety purposes	UN-R158, 121, 116	t.b.d.	2024 tbc.	OICA	General provisions for acoustic tell-tales
19	Type definition	Consideration on tolerances for type defining parameters and selection scheme for a representative vehicle.	UN-R51, R41	?	?	?	

**ECE 13H-01.1**

5.2.14.2. However, in the case of vehicles which are only considered to comply with the requirements of paragraph of this Regulation by 5.2.4.1. virtue of meeting the requirements of paragraph of annex 4 to this Regulation, the warning device shall consist of an **acoustic** signal in 1.3. addition to an optical signal. These devices need not operate simultaneously, provided that each of them meets the above requirements and the acoustic signal is not actuated before the optical signal. The red warning signal specified in paragraph below shall be used as the 5.2.21.1.1. optical warning signal

**ECE 16-07 - Second level warning threshold speed**

8.4.2.2. **Audible** warning

8.4.2.2.1. The audible warning shall consist of a continuous or an intermittent (pauses shall not exceed 1 second) sound signal or of continuous vocal information. Where vocal information is employed, the vehicle manufacturer shall ensure that the alert is able to employ the languages of the market into which the vehicle is intended to be placed.

8.4.2.2.2. The audible warning shall be easily recognized by the driver.

**UN-R48 (to be updated with SLR)**

6.5.8. Tell-tale

Operating tell-tale mandatory for direction-indicator lamps of categories 1, 1a, 1b, 2a and 2b. It may be visual or **auditory** or both. If it is visual it shall be a flashing light which, at least in the event of the malfunction of any of these direction-indicator lamps, is either extinguished, or remains alight without flashing, or shows a marked change of frequency. If it is entirely **auditory** it shall be clearly **audible** and shall show a marked change of frequency, at least in the event of the malfunction of any of these direction-indicator lamps.

It shall be activated by the signal produced according to paragraph 6.2.2. of Regulation No. 6 or another suitable way<sup>13</sup>.

If a motor vehicle is equipped to draw a trailer, it shall be fitted with a special visual operational tell-tale for the direction-indicator lamps on the trailer unless the tell-tale of the drawing vehicle allows the failure of any one of the direction-indicator lamps on the vehicle combination thus formed to be detected.

**Sound SBR: UN-R16-07**

8.4.2.2. **Audible** warning

8.4.2.2.1. The **audible** warning shall consist of a continuous or an intermittent (pauses shall not exceed 1 second) sound signal or of continuous vocal information. Where vocal information is employed, the vehicle manufacturer shall ensure that the alert is able to employ the languages of the market into which the vehicle is intended to be placed.

8.4.2.2.2. The **audible** warning shall be easily recognized by the driver.

8.4.2.4.1. The second level warning shall be a visual **and audible** signal activated for at least 30 seconds not counting periods in which the warning may stop for up to 3 seconds when at least one or any combination of the conditions at the choice of manufacturer, set out in paragraphs

8.4.2.4.1.1. to 8.4.2.4.1.3. is/are fulfilled. The second level warning shall supersede the first level warning when the first level warning is still active.

**UN-R79-03**

5.4.1.3. **Acoustic** warning signals shall be by continuous or intermittent sound signal or by vocal information. Where vocal information is employed, the manufacturer shall ensure that the alert uses the language(s) of the market into which the vehicle is sold.

**Acoustic** warning signals shall be easily recognized by the driver.

5.6.1.1.5. Whenever the system becomes operational, this shall be indicated to the driver. Any termination of control shall produce a short but distinctive driver warning by an optical warning signal and either an **acoustic** warning signal or by imposing a haptic warning signal (except for the signal on the steering control in parking manoeuvring).

### **GSR2: DDAW (WDA)**

3.4.3. Avertissement **sonore**

3.4.3.1. L'avertissement **sonore** doit être facilement reconnu par le conducteur.

3.4.3.2. La majeure partie de l'avertissement **sonore** doit se situer dans le spectre de fréquences de 200 à 800 Hz et dans la plage d'amplitude de 50 à 90 dB.

5.1.6.1.2.2. In the case of two or more consecutive interventions within a rolling interval of 180 seconds and in the absence of a steering input by the driver during the intervention, an **acoustic** warning shall be provided by the system during the second and any further intervention within a rolling interval of 180 seconds.

5.1.6.2.6. - Any intervention of an ESF shall be indicated to the driver with an optical and with an **acoustic** or haptic warning signal to be provided at the latest with the start of the ESF intervention and maintained as long as the intervention exists.

- For this purpose, appropriate signals used by other warning systems (e.g. blind spot detection, lane departure warning, forward collision warning) are deemed to be sufficient to fulfil the requirements for the respective optical, **acoustic** or haptic signals above.

Starting with the third intervention (and subsequent interventions) the acoustic warning signal shall continue for at least 10 seconds longer than the previous warning signal.

5.6.2.2.3. When the system reaches its boundary conditions set out in paragraph 5.6.2.3.1.1. of this Regulation (e.g. the specified maximum lateral acceleration  $a_{ysmax}$ ) and both in the absence of any driver input to the steering control and when any front tyre of the vehicle starts to cross the lane marking, the system shall continue to provide assistance and shall clearly inform the driver about this system status by an optical warning signal and additionally by an **acoustic** or haptic warning signal.

5.6.2.2.5. The system shall be automatically deactivated at the latest 30 s after the **acoustic** warning signal has started.

- After deactivation the system shall clearly inform the driver about the system status by an **acoustic** emergency signal which is different from the previous **acoustic** warning signal, for at least five seconds or until the driver holds the steering control again.

5.6.2.2.5. If, after a period of no longer than 30 seconds the driver is not holding the steering control, at least the hands or steering control in the pictorial information provided as optical warning signal shall be shown in red and an **acoustic** warning signal shall be provided.

### **R 100-02 part I.**

Functional safety:

When leaving the vehicle, the driver shall be informed by a signal (e.g. optical or **audible** signal) if the vehicle is still in the active driving possible mode.



**UN-R131 (M2,N2)***5.5. Warning indication*

5.5.1. The collision warning referred to in paragraph 5.2.1.1. above shall be provided by at least two modes selected from **acoustic**, haptic or optical.

**UN-R151** BSIS (00S1 & S2):

5.3.1. The BSIS shall inform the driver about nearby bicycles that might be endangered during a potential turn, by means of an optical signal, so that the vehicle can be stopped before crossing the bicycle trajectory.

It shall also inform the driver about approaching bicycles while the vehicle is stationary before the bicycle reaches the vehicle front, taking into account a reaction time of 1.4 seconds. This shall be tested according to paragraph 6.6.

The BSIS shall warn the driver, by means of an optical signal, **acoustical** signal, haptic signal or any combination of these signals, when the risk of a collision increases.

**UN-R158**

2.1.5.1. "**Audible** information" means information using auditory signals provided by a detection system as defined in paragraph 2.1.5. above to enable the driver to detect objects in the area adjacent to the vehicle.

17.2. Driver interface and information presentation strategy

17.2.1. The system shall have at least two kinds of information signal selected from **audible**, optical, and haptics.

17.2.1.1. As long as one information signal remains active, the driver may de-activate the other information signals.

17.2.2. Audible information

When an object is detected in the rear horizontal area as described in paragraph 1.3. of Annex 10. while the reverse gear is selected/engaged, audible information in accordance with ISO 15006:2011 shall be given.

In presenting **audible** information, the distance may be identified at two or more levels. These zones differentiated by levels (distance) and detection width may be indicated by changing the frequency of intermittent sound, and a faster intermittent sound or continuous sound shall be used as the distance becomes closer.

**UN-R159 MOIS (M2/N2)**

5.7. Collision warning signal

5.7.1. The MOIS shall warn the driver when the risk of a collision is imminent by providing the collision warning signal.

5.7.2. The collision warning signal shall be provided by the means of a combination of at least two modes selected from an optical signal, **acoustic** signal or haptic signal.

Where the collision warning signal is provided by using an optical mode, this shall be a signal differing in activation strategy from the information signal specified in paragraphs 5.2.2. and 5.6.

5.7.3. The collision warning signal shall be easily understandable for the driver to relate the warning signal to the potential collision. In case the warning signal is an optical signal this signal shall also be visible by daylight and at night.

### 17.2.3. Duration of signalling

Signalling for an object shall last as long as the object is detected and shall end when the object is no longer detected or when the system is deactivated.

To reduce the driver's discomfort, the audible signal can be automatically suspended temporarily after a certain time set by the manufacturer has elapsed, provided that the system remains activated. If, while the audible signal is automatically suspended temporarily, the distance to the object becomes short, the audible signal shall be automatically resumed. If the distance to the object becomes long, the audible signal may remain suspended.

An optical information signal shall be maintained only for as long as the conditions specified in paragraph 5.3.1.4. below are fulfilled. For vehicles of categories N2 with a technically permissible maximum mass exceeding 8 tonnes, N3 and M3 the deactivation of the information signal as a result of the vehicle turning away from the bicycle trajectory is not allowed as long as a collision between vehicle and bicycle is still possible, in case the driver would steer back towards the bicycle trajectory.5.1.6.1.2.1.

- In the case of an intervention longer than:

- (a) 10 s for vehicles of category M1 and N1, or
- (b) 30 s for vehicles of category M2, M3 and N2, N3,

an acoustic warning signal shall be provided until the end of the intervention

### **UN-R152 (M1,N1)**

*5.5.1. The collision warning referred to in paragraphs 5.2.1.1., 5.2.2.1. and 5.2.3.1. shall be provided by at least two modes selected from acoustic, haptic or optical.*

### **RVSFR ((EU) No 3/2014)**

4.1.3. When leaving the vehicle, the rider shall be informed by a signal (e.g. optical or audible signal) if the vehicle is still in the active driving possible mode.

### **DDAW ( EU 2021/1341)**

3.4.3. Acoustic warning

3.4.3.1. The acoustic warning shall be easily recognised by the driver.

3.4.3.2. A majority of the acoustic warning shall fall within the frequency spectrum of 200-8 000Hz and amplitude range of 50-90 dB.

3.4.3.3. If speech alerts are utilised, the vocabulary used shall be consistent with any text used as part of the visual alert.

3.4.3.4. The audible portion of the alert shall last for at least the duration that allows the driver to understand it.

### **eLKS ( LDWS et CDCF) (EU 2021/646)**

3.5.3.1. The lane departure warning referred to in point 3.5.2 shall be noticeable by the driver and be provided by:

- (a) at least two warning means out of visual, acoustic and haptic; or
- (b) one warning means out of haptic and acoustic, with spatial indication about the direction of unintended drift of the vehicle.

The warning mentioned above may be suppressed when there is a driver action which indicates an intention to depart from the lane;