



OICA

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Informal Document **GRBP-82-21**
82nd GRBP, 3-5 September 2025,
agenda item 12

Work on Exterior Acoustic Signaling Status Report

5 September 2025

EXTERIOR ACOUSTIC SIGNALING

WORK IN PROGRESS
ACEA TF-ACSI

Working Party on Noise and Tyres (GRBP)
82nd session, Palais des Nations, Geneva

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Pilot of ACEA TF-ACSI

5 September 2025



acea

MEETINGS AND PARTICIPANTS

ACEA TASK ACOUSTIC SIGNALING (TF-ACSI)



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Number of Meetings

Hybrid-meetings

- 7th TF ACSI: 2025, May 21
- 8th TF ACSI: 2025, June 23
- 9th TF ACSI: 2025, July 18
- 10th TF ACSI: 2025, August 27



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Participants

- **ACEA:**
Vehicle and Commercial vehicle manufacturers from EU and Japan, Korea (via importers)
- **Acoustic Experts:**
ACEA, AFAI

SITUATION AND MOTIVATION

- Following documents WP.29-191-05r1 and [GRBP-78-02](#), OICA asked ACEA to work on Exterior Acoustic Signalling.
- ACEA established the Task Force Acoustic Signalling (TF-ACSI).
- TF-ACSI aims to work on acoustic signalling:
 - To harmonize requirements
 - To orient requirements to function related specifications
 - To propose a framework for exterior acoustic signals specifications
- TF-ACSI **will not define the need for acoustic signals**, but a common way to define their specifications.

FRAMEWORK

Task 1 – Regulation scanning

- Scan regulations and standards to identify specifications of exterior acoustic signals
- Examine regulations and standards on how the acoustic signal is specified
- Create an overview of cross functions on devices.

Task 2 – Propose guidelines

- Create general template for the definition of sounds specification (pattern, frequency, level, ...)
- Cluster in exterior acoustic signalling functions (safe life, safe car, information/communication,...)
- Propose how to manage priorities defined in GRs in exterior acoustic signals

Task 3 – Propose amendments

- Ensure test procedures are well described and consistent
- Amend device-oriented requirements to function-oriented, to broaden the scope of technologies
- Propose guidelines for the specification of sound signals in future regulations

TF ACOUSTIC SIGNALLING DELIVERABLES

Milestones

- 79th GRBP (February 2024):
 - Status Report on working program
- 80th GRBP (September 2024):
 - Reporting postponed
- 81st GRBP (February 2025):
 - Outcome from Task 1 (in progress)
 - Proposed framework for acoustic signal specification
- 82nd GRBP (September 2025):
 - Outcome from Task 1 (finalized)
 - Progress on Task 2 (framework)
 - Progress on Task 3

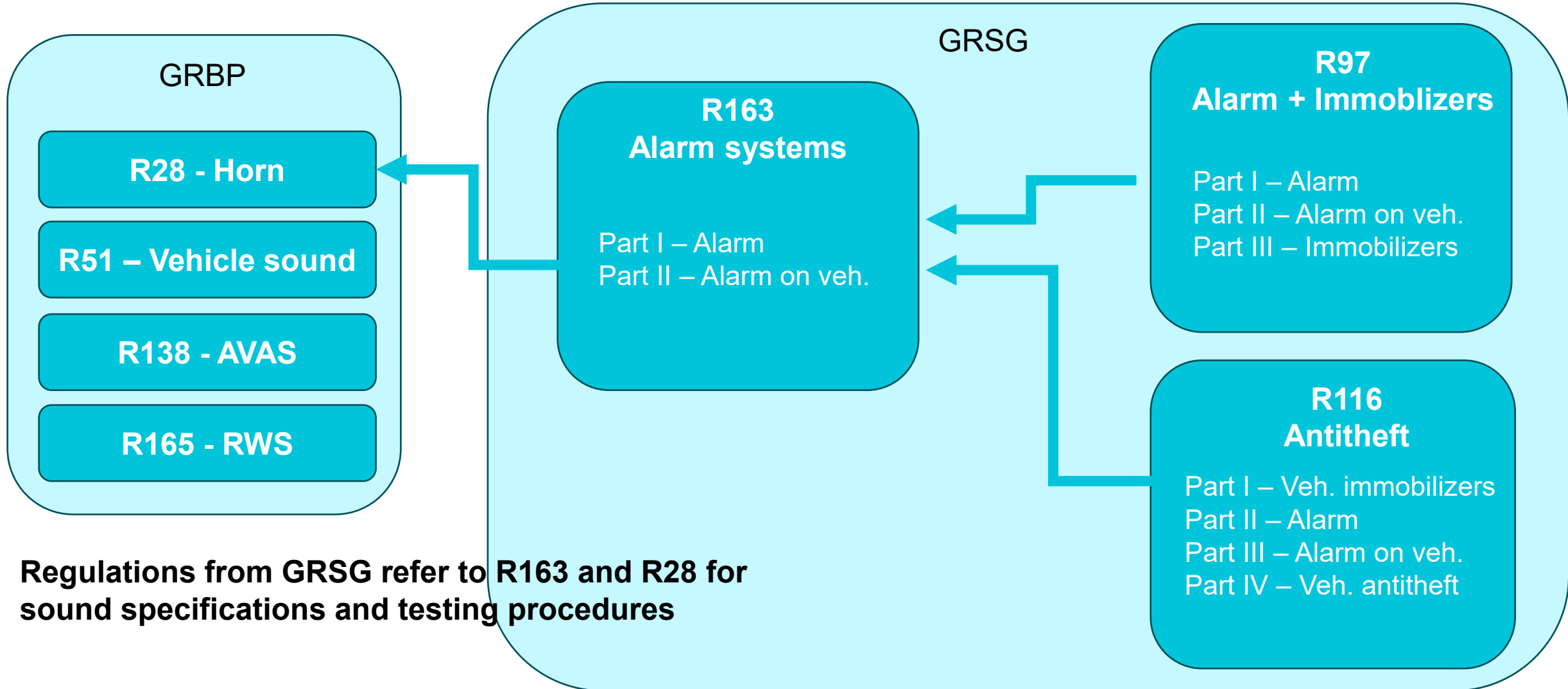


RESULTS OF TASK 1

REVIEW OF REGULATION / STANDARDS

TASK 1: REVIEW OF REGULATION / STANDARDS

Regulations / standards related to exterior acoustic signalling.



Regulations from GRSG refer to R163 and R28 for sound specifications and testing procedures

TASK 1: REVIEW OF REGULATION / STANDARDS

Requirements on acoustic signalling in GRBP, GRSG, EU

		R28 Horn	R138 AVAS	R165 RWS	R163 Alarm	R116 Antitheft	EU 540/2014* 2019/839
Sound presence	Mandatory ? Exemptions ?	√	√		√	√	√
Sound level	Minimum ? Maximum ?	√	√	√	√	√	
	Self adjusted to background ?			√			
Sound descriptors	Subjective description	√					√
	Frequency range, frequency emergence	√	√	√	√	√	
	Sound pattern			√	√	√	
Component	Technology	√		√			
	Specification on component	√		√	√	√	
	Component installation	√		√	√		
Users features	Pause function		√	√	√	√	√
	Selectable sound		√	√			
Test procedure	Microphone distance, height, test facility	√	√	√	√	√	

Review national regulations specifying exterior sound signals



TASK 2 PROGRESS

PROPOSE A FRAMEWORK FOR EXTERIOR SOUND
SPECIFICATIONS

REPORT ON TASK 2 PROGRESS

Drafting a template for exterior signal specification

- Identify necessary and/or recommended criteria, regarding the function of the sound

		Safe Life	Safe car	Communication
Sound presence	Mandatory ? Exemptions ?	√	√	
Sound level	Minimum ? Maximum ?	√	√	√
	Self adjusted to background ?	.	.	.
Sound descriptors	Subjective description	.	.	.
	Frequency range, frequency emergence	.	.	.
	Sound pattern	.	.	.
Component	Technology			
	Specification on component			
	Component installation			
Users features	Pause function			
	Selectable sound			
Test procedure	Microphone distance, height, test facility			

REPORT ON TASK 2 PROGRESS

Proposal of a template to draft regulations on exterior signalling

- Provide guidelines for the drafting of exterior sound signals specifications,
- taking into account their level of priority (safe life, safe car, communication)
- Format: a Document For Reference Only ?
- Communication to other GRs ?



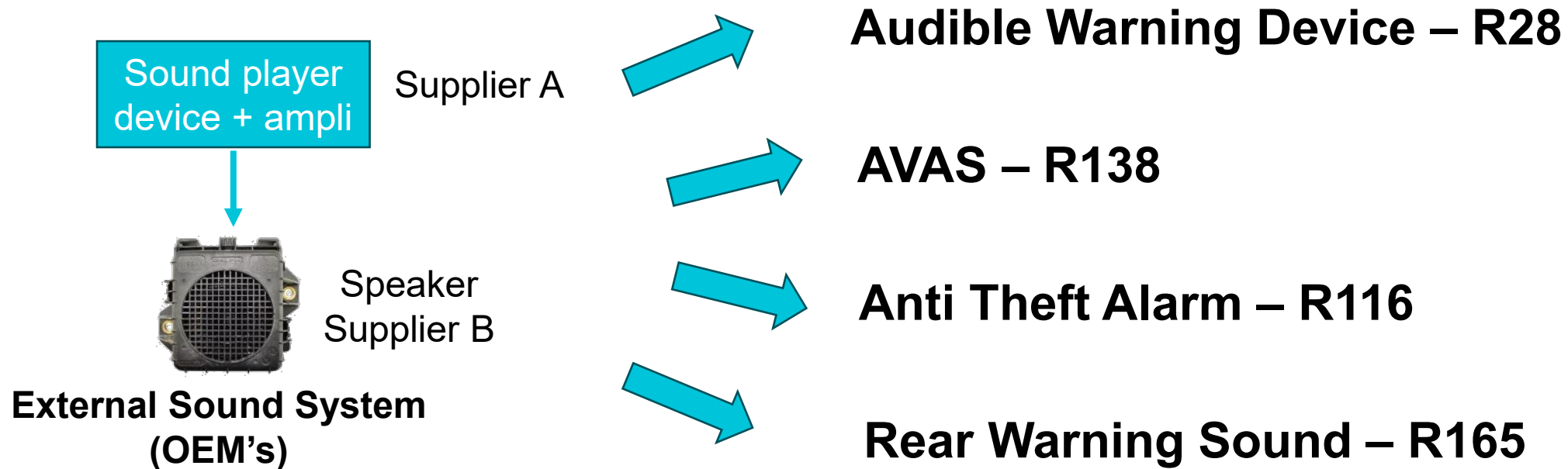
TASK 3 PROGRESS

AMEND TEXTS

PLANS FOR TASK 3

Are there amendments needed to GRBP, GRSG regulations?

- What are the texts that would need to be amended to adapt to upcoming technologies? Example of an “all-in-one” system:

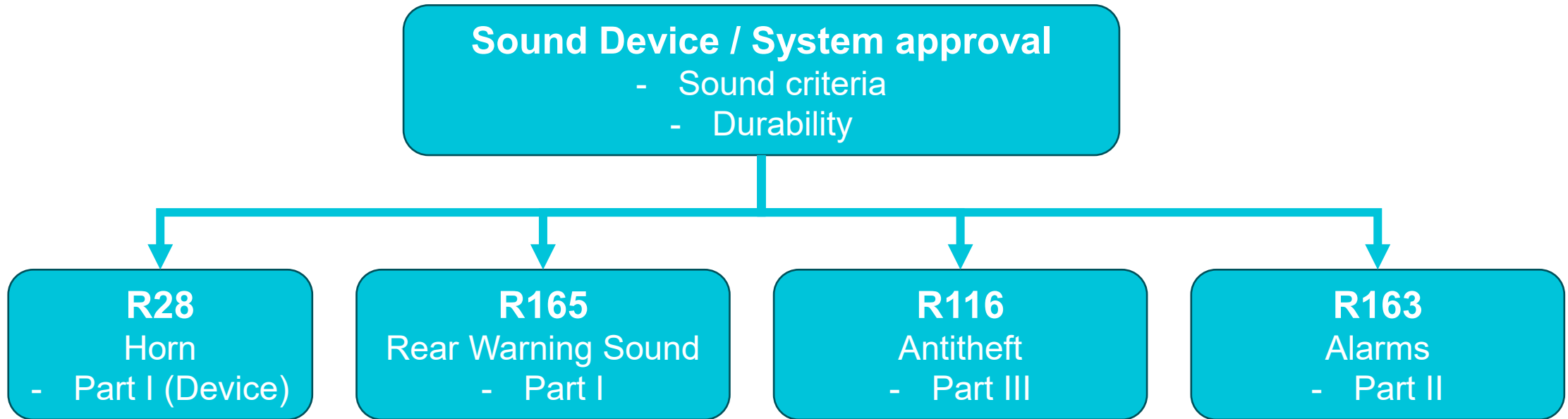


- OK with all other GRBP, GRSG regulations (so far)
- UN-R28 : amendment needed to allow system approval by OEMs
 - Amendment proposal for GRPB 83

PLANS FOR TASK 3

Towards a “Sound System Approval” ?

- Amend, or draft an new regulation gathering Device/Sound System approval requirements?



- What would be the benefit?
- This task would need to be addressed in a dedicated Task Force



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THANK YOU FOR YOUR ATTENTION!