



Status Report

ECE/TRANS/WP.29/GRVA/2024/28

Proposal for amendments to UN-R79

(Steer-by-wire)

Submitted by the experts from CLEPA and OICA

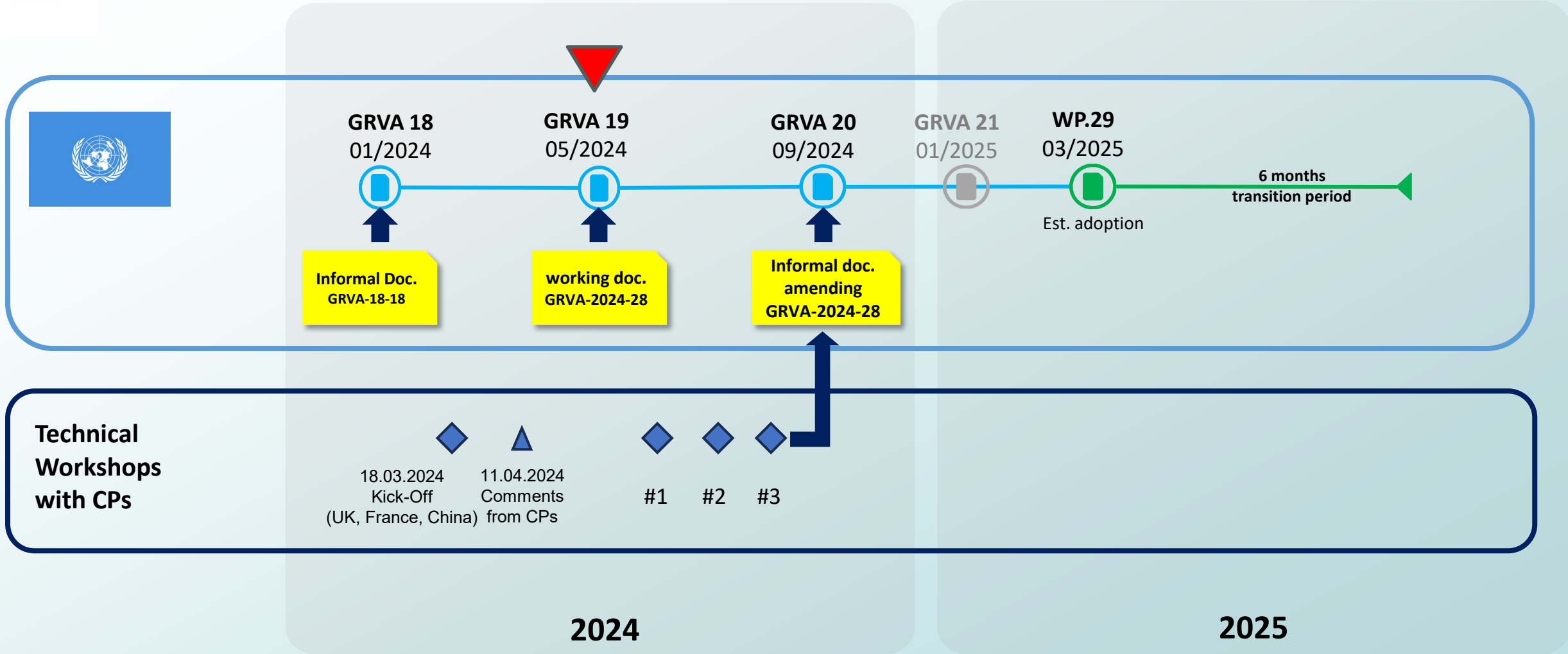


Main progress since GRVA-19

- **Organization is up and running** (joint Industry / CPs workshops)
- **Good participation** of experts
- **Agreement** to implement the EBSIG EMS definitions and requirements in UN R79:
 - Energy Management System (EMS) and associated warnings
 - Electrical storage device *performance* and *state*
- **Acknowledgement** of the industry need for a new safety concept based on automatic speed reduction / standstill (inspired from EBSIG)
- **Shared understanding** of the remaining open issues:
 - Safety of slowing down and stopping
 - Justification of “Lane change” as testing manoeuvre
 - Justification of “60 s”
 - Test procedure

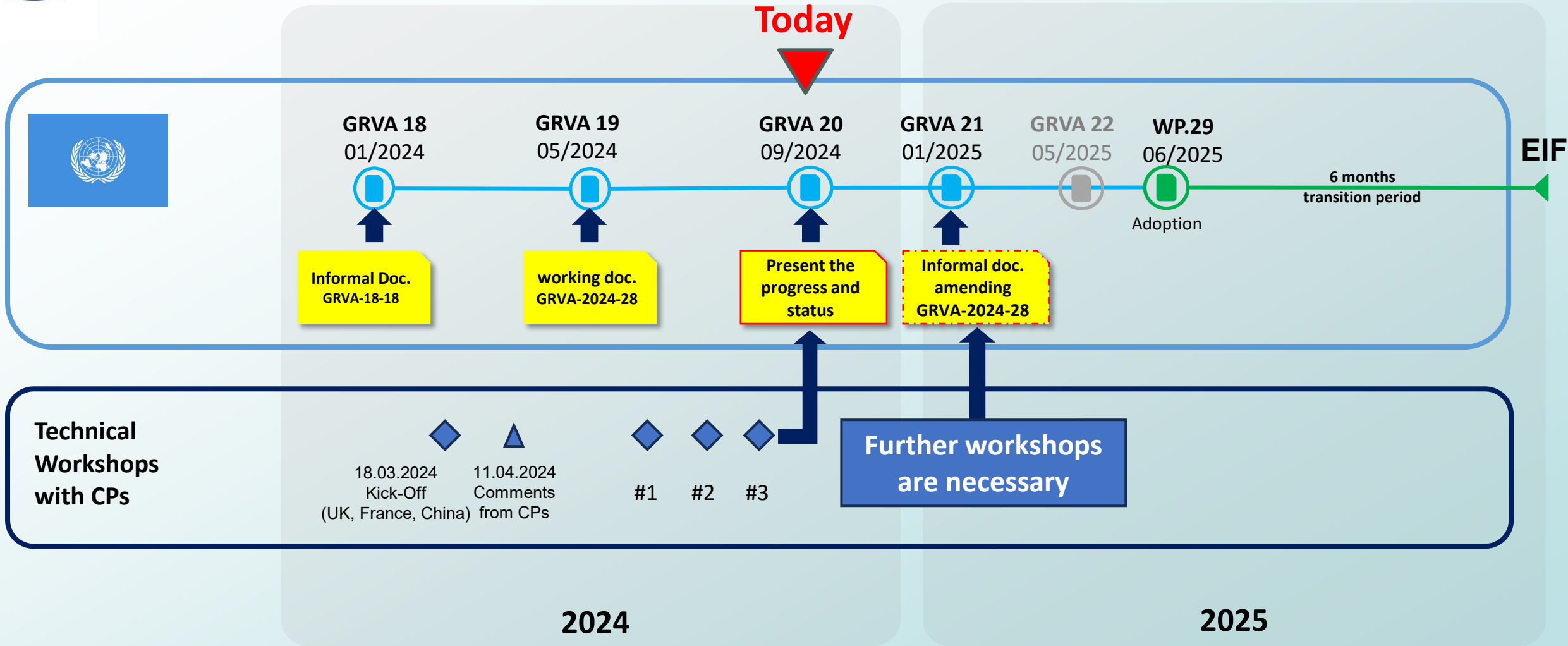


Original Timeline





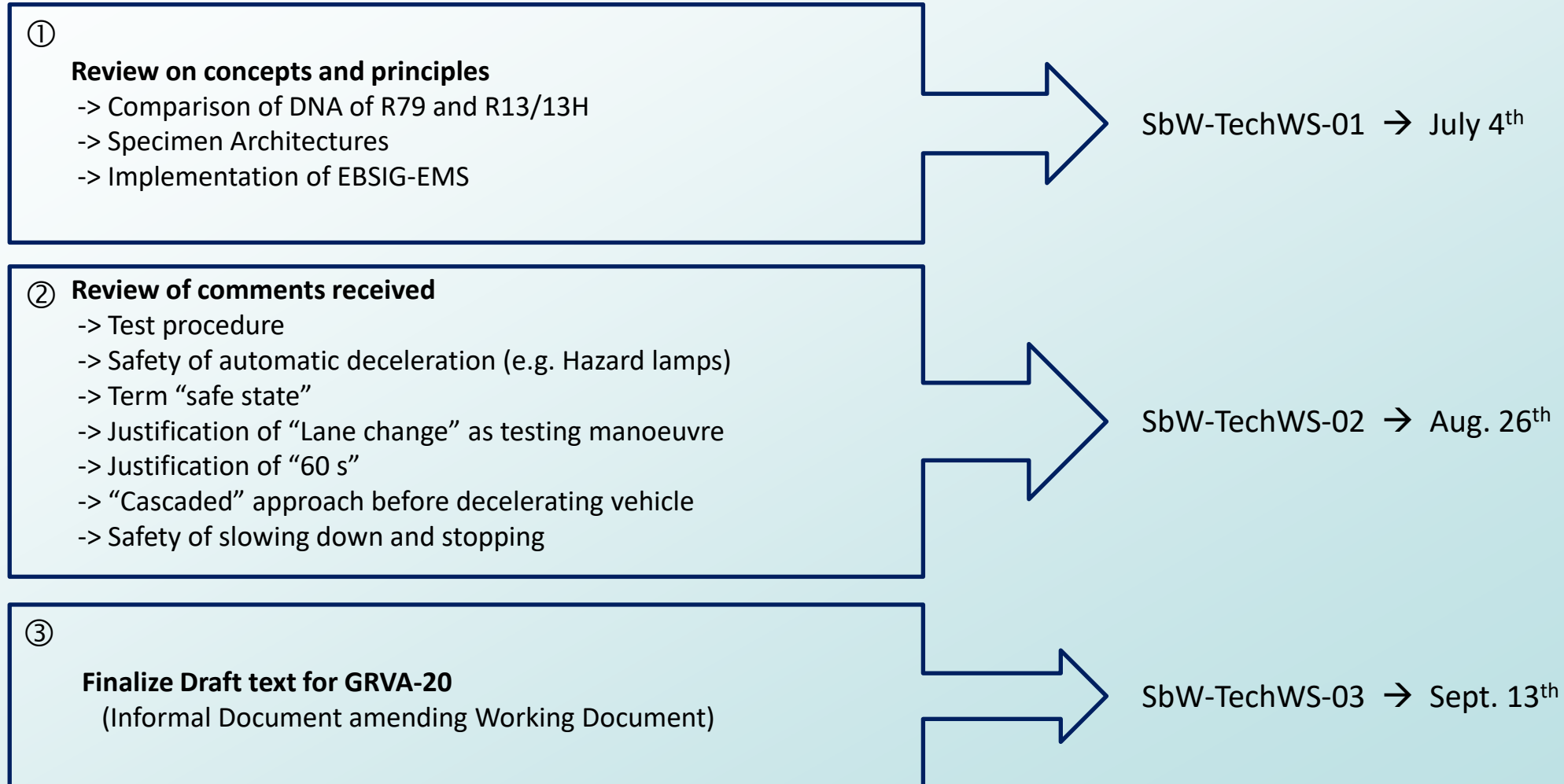
Revised Timeline



The target: endorsement at GRVA of Jan 2025, for June WP29 ⁴



Technical workshops (original plan)





Progress and status of work (1/2)

①

Review on concepts and principles

- > Comparison of DNA of R79 and R13/13H
- > Specimen Architectures
- > **Implementation of EBSIG-EMS**.....



②

Review of comments received

- > Test procedure
- > Safety of automatic deceleration (e.g. Hazard lamps)
- > Term “safe state”
- > Justification of “Lane change” as testing manoeuvre
- > Justification of “60 s”
- > “Cascaded” approach before decelerating vehicle
- > Safety of slowing down and stopping

③

Finalize Draft text for GRVA-20
(Informal Document amending Working Document)

Conclusions of Technical Workshops: **- Energy Management System – EMS -**

1. **Agreement** to align EMS requirements and definition on R13(-H) EBSIG amendment.
2. Adjustments needed to the draft text implementing EMS in R79 SBW proposal, but **overall agreement on the content**
3. Warning signals based on *performance* and *state* of electric storage device **to be reviewed**.
4. **Further considerations needed** for the case where the EMS is shared with the braking system



Consistency between R79 Steer-by-Wire and R13-R13H Electric transmission braking system



Progress and status of work (2/2)

①

Review on concepts and principles

- > Comparison of DNA of R79 and R13/13H
- > Specimen Architectures
- > Implementation of EBSIG-EMS

② **Review of comments received**

- > Test procedure
- > Safety of automatic deceleration (e.g. Hazard lamps)
- > Term “safe state”
- > Justification of “Lane change” as testing manoeuvre
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③

Finalize Draft text for GRVA-20
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Conclusions of Technical Workshops:

- Alternative safety concept to “24x8” -

1. In the event of a system failure where the system would use (depleting) energy reserves, the driver should be able to choose a safe location where to stop.
2. On the other hand, if the driver ignores the warning, the vehicle will eventually slow down and stop.
3. Implementing a function to automatically slow down and stop the vehicle to mitigate the risk is an understandable proposal from industry, however, there must be sufficient “margin” for the driver to stop.
4. It is agreed that 24 figures of 8 give a sufficient margin, potentially much more than what is needed in real world.
5. The question is whether a minimum time and distance of “60 seconds / 1.5km after warning” (as proposed by industry) is a sufficient margin.



The issue can be streamlined to whether the [60s / 1500m] and the associated warnings are deemed sufficient for a driver to manage the situation.



How to secure adoption at GRVA-21 of January 2025

➤ Options to approach GRVA-21:

Option 1: Draft a new working document (at least addressing EMS & warnings) and an informal document addressing remaining issues;

Option 2: Draft an informal document amending current GRVA-2024-28, to address all issues.

**Any preferred
option by
GRVA?**

➤ Industry to invite for further technical workshops **right after the GRVA**

➤ Industry targets to finalize work by end of the year to give Contracting Parties appropriate time to review



Expectation from GRVA

Is GRVA endorsing:

- the updated time plan
- the principle of the Energy Management System (EMS)
- the formulation of the open issue on the “Alternative safety concept to ‘24x8’ ”
- the plan and the organization to secure adoption at GRVA-21 of January 2025