



# ACPE on HCVs Industry input

ACPE IWG kick-off meeting  
(March 24 and 27, 2023)

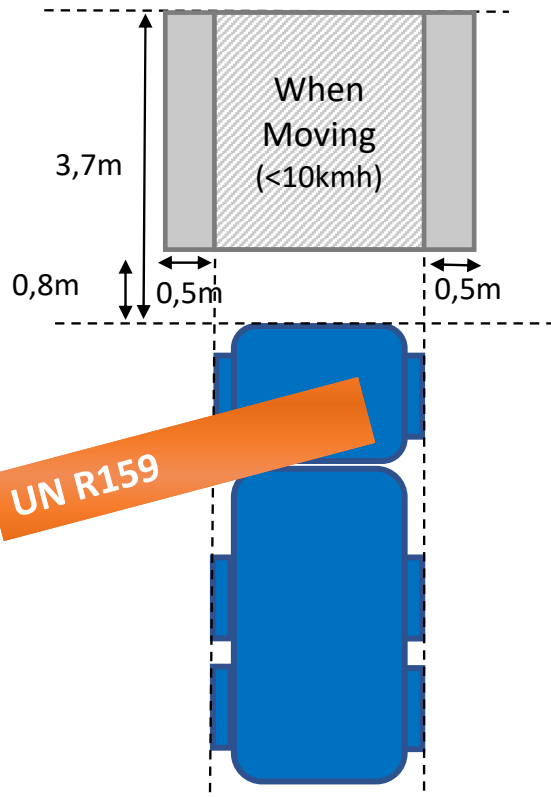


# HCVs - Regulatory Status and initiatives

(Use case: Low speed Collision avoidance)

## MOIS

Warning



## UEBS → EMIS

Warning  
+ inhibit acceleration

?

Annex to UN R167  
(Direct vision)

## ACPE

Warning  
+ inhibit acceleration  
+ brake ?

?

New regulation

UN R131

## AEBS

Warning + brake, down to 10km/h\*  
([5]km/h with a design margin)



Risk to get incompatible / overlapping requirements, spread in different regulations.

# HCV Status – Focus on VRUs

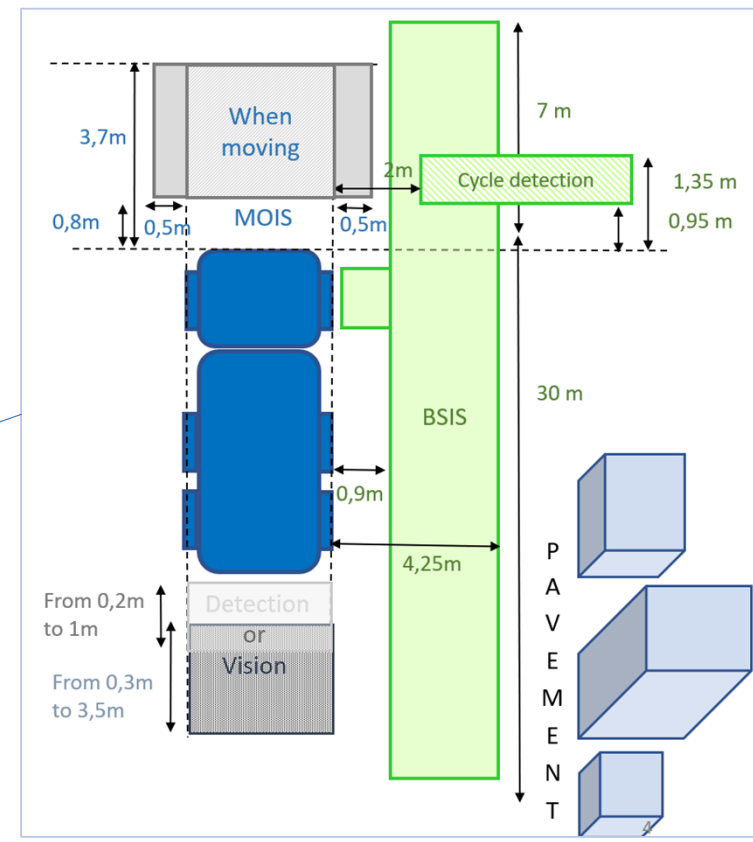
(Use case: Low speed Collision avoidance)

Protection of VRUs at low speed is already broadly addressed:

- **5 new regulations** (all with mandatory installation in EU):

R151	BSIS	2024
R158	Reversing safety	2024
R159	MOIS	2024
R131-02	AEBS	2028
R167	Direct vision	2029

- **~10 years** between start of developments and implementation of the last measure
- **Heavy** technical impacts
- Implementation issues (e.g. overlapping technical measures in different regulations)



Is it relevant to start developments on a new system

- addressing the same use case,
- before the « pedal error » HCVs accidents statistics have been analyzed, and the effect of already decided measures assessed ?

## Effect of HCVs specific parameters (vs M1N1)

### Specificities of HCVs vs M1N1

**UN R158 MOIS warning**

**+**

**Lower vehicle dynamics**

(i.e. more time for driver to react to an error)

**+**

**Professional drivers**

**(and no elderly professionals)**

**+**

**More space in cab between pedals**

**+**

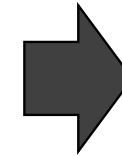
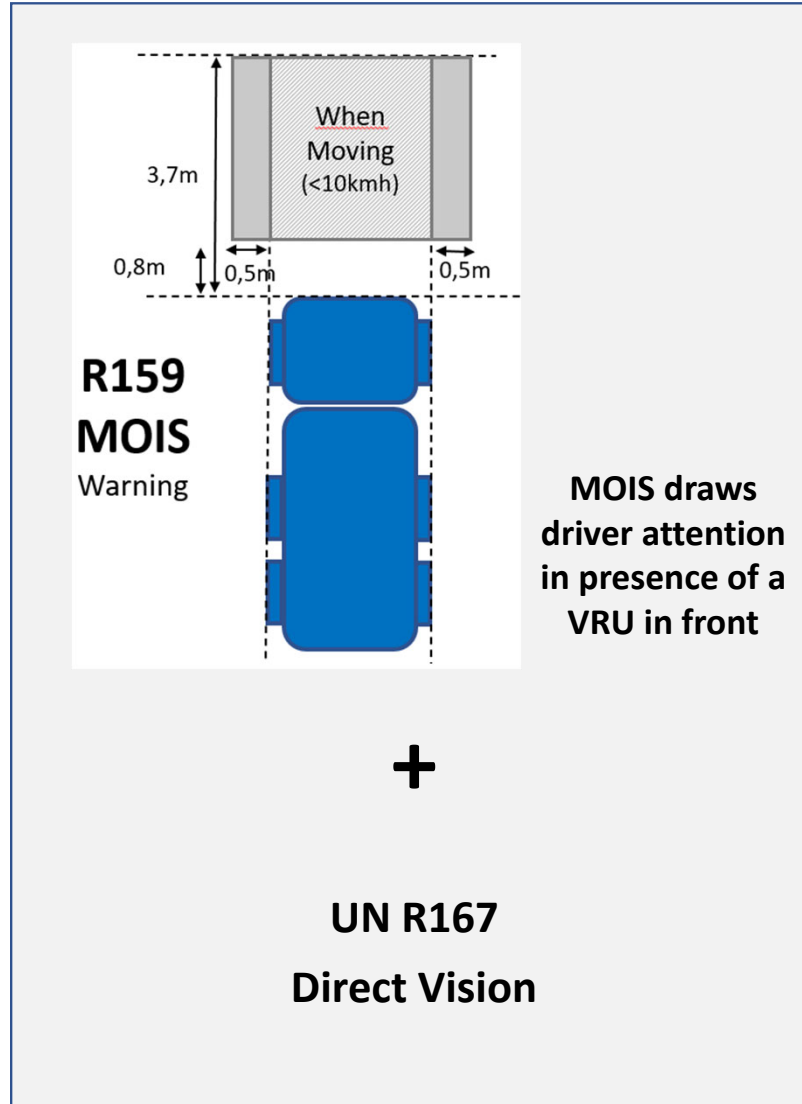
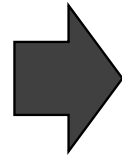
**Different usages** (highway, construction area vs cities,  
city buses seldom driving backward during normal use...)



**Minimized risk of  
“pedal error” accident  
on a HCV**

# Effect of HCVs decided measures

HCV “pedal error”  
Accidents data  
2023



HCV “pedal error”  
Accidents data 2025-  
2030 ??



The « pedal error » HCVs accidents statistics should be analyzed, and the effect of already decided measures assessed

## Summary

1. **Too many regulatory initiatives on very similar use cases (MOIS, UEBS/EMIS, ACPE, AEBS),** creating risks to get incompatible / overlapping requirements, generate driver confusion / rejection... **during a period with very heavy work program.**
2. **Protection of VRUs at low speed is already broadly addressed at UNECE, with 5 (five) UN regulations.**
3. **Lack of accidents data to assess the magnitude of the potential issue.**
4. **No measurement of the effect of decided measures on those accidents.**
5. **No assessment of the effect of specific HCV parameters (vs M1N1)**
6. **Unclear use case (conditions for pedal error)**
7. **Unclear intention:**
  - Mandatory installation ?
  - Mandatory application for all ACPE-equipped vehicles?
  - Optional “technical standard”, available for use by CPs for specific vehicles (e.g. city buses) ?

# Proposal

- Focus the work on regulating what exists on the market (M1N1)
  - Recognize HCV industry is focusing on other technical measures than ACPE to address VRU low speed protection
  - Temporarily exclude HCVs from scope and
    1. Collect and analyze accidents due to pedal error on HCVs
    2. Measure the effect of already decided measures on HCV pedal error accidents
    3. Assess the effect of specific parameters to HCVs vs M1N1
- to make an informed decision on ACPE for HCVs, once the effect of the decided measures on VRUs is known