


Supporting document for Informal document No. GRRF-68-09  
Presentation summary

## **Background**

- New applications involving the brake system are constantly approaching.
- In the close perspective: Fully Automatic Coupling Systems, FACS
- In a bit more distant perspective: “Totally Integrated Vehicle Combination Control Systems”, (TIVCCS)
  
- The GRRF has previously got information about FACS.
  
- TIVCCS involves control of propulsion, braking, handling, ... for the entire vehicle combination.
  - See Project description summary “Integrated control of Propulsion, Braking and steering of Long Modular Vehicle Combinations”, Reg. no. 2009-004340 with the Swedish Energy Agency 
  
  - This will include regenerative braking and propulsion in the trailers. For regenerative braking in general for commercial vehicles see:  
[http://www.cvdc.org/recent\\_papers/Energy\\_Consumption\\_2009-09-23.pdf](http://www.cvdc.org/recent_papers/Energy_Consumption_2009-09-23.pdf)
  
- These emerging application have in common that they are incompatible with the ISO7638 connector.

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### **Proposal**

- Make ECE Regulation 13 more robust and resilient to take on these emergent challenges.
  - In the definition section add definitions of the braking related signals handled through ISO7638 today.
    - This is to remedy the lack of nomenclature causing ISO7638 “litter” all parts of the R13
    - As a consequence nearly all references to ISO7638 are replaced with signal references
  - New paragraphs are added to describe how the braking related signals shall be handled safely
    - Traditional couplings stay with ISO7638
    - FACS get strict requirements both for physical requirements and handling to prevent electrical coupling errors. Eventually standards like the in progress ISO13044-x will apply
    - As TIVCCS come along a special paragraph will be added to rule how the braking/propulsion related signals are handled.
      - Some new signals relevant may need to be defined.
- The remainder of the regulation text will stay unchanged.

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### **Justification**

- New technology applications will call for a more versatile handling of braking related signals.
- The current way to use ISO7638 as an implicit definition of nomenclature for braking related signals has worked fine.
  - Keep these benefits by the introduction of explicit definition of nomenclature.
    - In this way we avoid exemption texts for new applications at all places where the implicit definition would have been used.
- As new applications come along as it will, only limited changes to the R13 text will be needed
  - The explicit definition of nomenclature may occasionally need to be changed
  - A specific paragraph addressing the new application requirements would be needed.
    - Full focus on the risks and merits of the particular application.
    - Existing applications remain unchanged
- Now is the right time to act on this matter
  - Changes will inevitably be needed sooner rather than later.
  - Now the complexity is “small” which reduces risk with doing the change.



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**Thank you for your attention!**

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**Back UP**

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ANSÖKAN OM  
FINANSIELLT STÖD 1 ( 9 )  
Datum 2009-12-09  
Dir 2009-004340  
Projekt nr

<b>Sökande</b>				
Förslag/organisation Volvo Lastvagnar AB		Organisationsnummer 556013-9700		
Sektor/verksamhet		Program/Årskategori/Årskost B4 21-0847-4415		
Titel/tema				
Postnummer	Ort	Länkod	Kommunkod	Land
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Eventuell medförare (organisation)				

<b>Projektet</b>	
<input checked="" type="checkbox"/> Ansökan avser nytt projekt	<input type="checkbox"/> Fortsättning på tidigare projekt, projektnummer:
Projekttitel (på svenska) Integrerad Reglering av Drivning, Bromsning, och Styrning hos Långa Modulära Lastbilskombinationer	
Projekttitel (på engelska) Integrated Control of Propulsion, Braking and Steering of Long Modular Heavy Vehicle Combinations	
<input type="checkbox"/> Enskilt projekt	<input checked="" type="checkbox"/> Forskningsprogram: Fordonsstrategisk forskning och innovation (F4)
Handläggare som anslutan dokument med	
Datum för projektstart	Valfritt till projektet berättas i ansökan
2010-03-01	2015-03-01
Totalt sök belopp	
4 414 250	



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Proposal



Elaborated  
justification



Ausschnitt  
BG-Verkehr

