

# Status report GRSP IWG ECRS

53rd GRSP  
Geneva May 2013

# Terms of reference for Phases 2 & 3

8. The informal group shall consider in the **Phase 2**, the development into the new draft regulation for “enhanced Child Restraint Systems used on-board of motor vehicles” of the necessary amendments to **integrate the category of ISOFIX non-integral CRS** for consideration by GRSP.
9. The target completion date for the Phase 2 shall be the fifty-one session of GRSP (May 2012).
10. **Develop definitions in Phase2, performance criteria and test methods for ISOFIX non -Integral CRS** (Restraint done by the adult safety belt)
11. In Phase 2, **review in the light of recent accident data the test pulse for frontal impact** (Increased severity and CRS integrity check).
12. In Phase 2, **review** in the light of recent accident data **the strict application of recognized and accepted injury criteria related to the new generation baby/child crash test Q-dummies**, as supported through EEVC and other EU research programs.
13. **Develop transitional provision in ECE R44 to withdraw ISOFIX application from ECE R44** regulation after acceptance by WP29 of Phase 1 and Phase 2
14. The informal group shall **consider in the Phase 3, the upgrade of ECE R44** regulation for “Restraining devices for child occupants of power-driven vehicles” with the necessary amendments to integrate in this regulation for seatbelt mounted CRS the outcome of Phase 1 and Phase 2.
15. The target completion date for the Phase 3 shall be the fifty-third session of GRSP (May 2013).
16. **Develop in Phase 3 the necessary amendments to upgrade ECE R44 for the Seatbelt mounted CRS** in order to introduce for this category of CRS the outcome of Phase 1 and 2
17. **In its work, the informal group will take into consideration** amongst others the technical expertise of EEVC WG18, EEVC WG12, ISO TC22/SC12, NPACS **as well as the results of the discussions held in the informal group and at GRSP**
18. If necessary, the informal group shall develop complementary test methods and propose alternative judgement criteria.

# UN Regulation No. xxxx – Enhanced Child Restraint Systems (ECRS)

- Amended Mandate
  - Draft regulation for phase 2 (May 2013)
  - Development of transitional provision to withdraw ISOFIX application from ECE R44 (December 2013)
  - Draft regulation for phase 3 (May 2014)

# Meetings since last GRSP

- 36<sup>th</sup> - 29 January 2013 at OICA – Paris
- 37<sup>th</sup> - 28 February 2013 at CLEPA – Brussels
- 38<sup>th</sup> - 18 April 2013 at SMMT – London
  
- 39<sup>th</sup> - 18 June 2013 at CLEPA – Brussels
- 40<sup>th</sup> - 18 September at BAST - Bergisch Gladbach

# Issues concerning ToR

- For Booster seat and Booster cushion the safety advantages of ISOFIX connectors are not proven based on accidentology.
- Limiting the scope of phase 2 to non-integral ISOFIX Boosters, limits the universality for this category
- The IWG propose to consider as Universal, Boosters without ISOFIX connectors, and to include these CRS in the Phase 2

# Phase 2 proposed philosophy

- Child is restrained by the belt system of the vehicle
- Two new categories for non-integral CRS:

- **“Universal Booster”**

(Non-Integral Universal Child Restraint System). Is a category of Child Restraint System for use in all universal seating position of a vehicle, as defined and approved according to Regulations Nos. 14 and 16. This category is separated in two sub-categories:

- “Universal Booster Seat” with integrated backrest
- “Universal Booster Cushion” without backrest

- **“Specific to vehicle Booster”**

is a category of Non-Integral Child Restraint System connecting to specific vehicle types. All vehicle anchorages are to be approved according to Regulation No. 14. This category includes vehicles “Built-in Boosters”. This category is separated in two sub-categories:

- “Specific to Vehicle Booster Seat” with integrated backrest
- “Specific to Vehicle Booster Cushion” without backrest

## “Universal Booster” proposed definition

- Without ISOFIX
- Similar to Current Universal Class II and III for installation and vehicle compatibility
- ISOFIX could be included if the ISOFIX attachments are stowable and don't need an anti-rotation device.
- “Universal Booster seat” for a stature up to 135 cm (with lateral protection)
- “Universal Booster cushion” for a stature from 135 cm up to 150 cm (lateral protection provided by the vehicle, link must be done with GTR on pole impact)

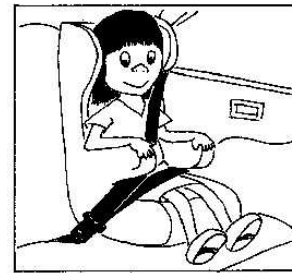
# Geometry of Boosters

- Same philosophy than for i-Size CRS
  - Based on size of the child
  - Based on agreed ISO fixture for compatibility with vehicles
- Use of Q3, Q6 and Q10 dummies



# On going issues for Phase 2

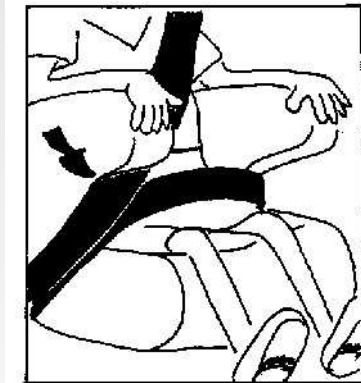
- Belt routing
  - geometric approach
- Belt guidance
  - mechanical robustness control
- Dummies
  - availability and criteria (Work in progress by EEVC WG12)
  - capability of the Q-Series and its instrumentation to “enhance” non-integral CRS
- Review of the front impact pulse (EC study in progress)



Astra H

Golf 6

Adjusted



## Phase 3 open issues

The phase 3 concerns only integral ECRS fixed by adult safety belt in the vehicle.

Based on work done previously the IWG could follow two approaches:

- Modify ECE R44 to include only integral ECRS fixed by adult safety belt
- Include integral ECRS fixed by adult safety belt in the new regulation ECE Rxxx

# Pros & Cons

ECE R44		ECE Rxxx	
Pros	Cons	Pros	Cons
	Double type approval for the same category. Two type approvals (for different cat. Universal, vehicle-specific)	Single type approval for the same category.	Two type approvals (for different cat. Universal, vehicle-specific)
	Several TAA could type approve the same category of product without concertation. Several TAA could type approve the same product without concertation (for different cat. Universal, vehicle-specific)	Possible check of all configurations of a category of ECRS by one TAA	Several TAA could type approve the same product without concertation (for different cat. Universal, vehicle-specific)
	Need to rebuilt all ECE R44 to include side impact + Q dummies + Stature based approach	Simple to add to current ECE Rxxx	
Keep the ECE R44 alive and separate clearly non ISOFIX product from ISOFIX product			Problem of interim period between phases 1 and 3 enforcement for integral ECRS
Shows clearly the difference between ISOFIX and Non ISOFIX Integral CRS			Includes "old fashioned" improved products in the ECRS regulation
	Keep "old fashioned" R44 products in parallel to the ECRS regulation (two level of safety)	Accelerates the implementation of ECRS requirements to belted Integral CRS	


## Draft proposal for Transitional Provisions

- ECRS Phase 1 applicable from **9 July 2013**
- ECRS Phase 2 expected to be applicable from Mid 2015 (if agreed by November 2014 WP29)
- ECRS Phase 3 expected to be applicable from Mid 2015 **if included in new ECRS regulation** and agreed by November 2014 WP29
- Delete Integral **[ISOFIX]** CRS Type Approval from ECE R44 at **[the end of 2015]**
- Delete Non Integral **[ISOFIX]** CRS Type Approval from ECE R44 at **[the end of 2016]**

## Proposed time-table for Phase 2

- 
- 53<sup>rd</sup> GRSP May 2013 informal working document
  - 20<sup>th</sup> Sep. 2013 IWG send GRSP First draft of Phase 2

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- 54<sup>th</sup> GRSP Dec. 2013 First formal draft of Phase 2
  - 55<sup>th</sup> GRSP May 2014 agreement on Phase 2 by GRSP

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- November 2014 WP29 agreement on Phase 2
  - Phase 2 application Mid 2015

# Proposed time-table for Phase 3

- 53<sup>rd</sup> GRSP May 2013 decision to include in ECE Rxxx
- 20<sup>th</sup> Sep. 2013 IWG send GRSP First draft of Phase 3

- 54<sup>th</sup> GRSP Dec. 2013 First formal draft of Phase 3
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- 53<sup>rd</sup> GRSP May 2013 decision to include in ECE R44
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- 55<sup>th</sup> GRSP May 2014 First formal draft of Phase 3
- 56<sup>th</sup> GRSP December 2014 agreement on Phase 3 by GRSP

- June 2015 WP29 agreement on Phase 3
- Phase 3 application beginning of 2016