

# 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)

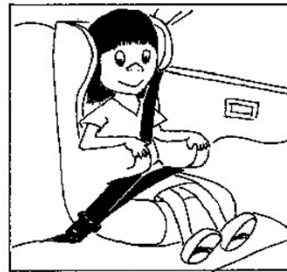
# Geometry of Boosters

- 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 ECERS 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 ECERS fixed by adult safety belt
- Include integral ECERS 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

- 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

- 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
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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