

Update on the Status of the Euro NCAP Child Safety Working Group



Britta Schnottale, Bernd Lorenz
Federal Highway Research Institute (BAST)

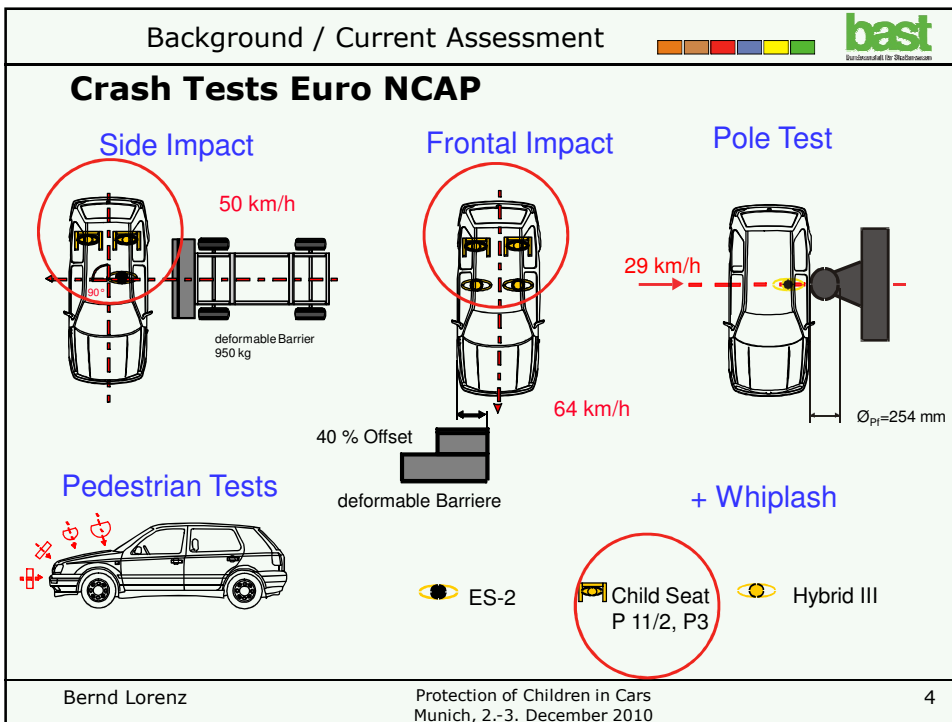
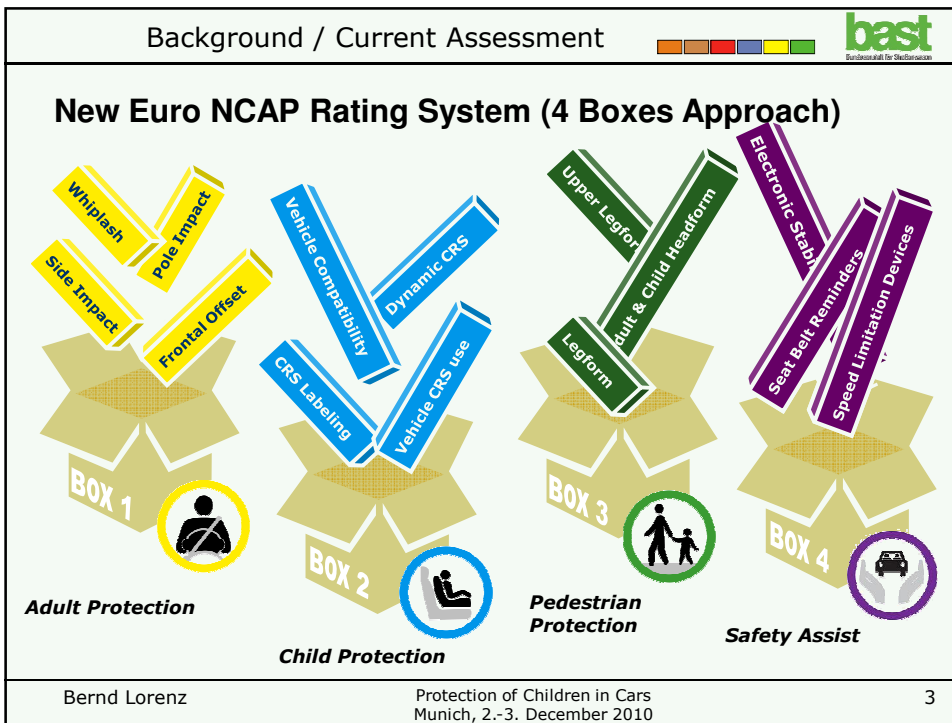
Michiel van Ratingen
Euro NCAP



**8th International Conference
Protection of Children in Cars
TÜV Süd Akademie GmbH
December 2 – 3, 2010
Munich, Germany**

Content

- Background / Current Assessment
- Child Safety Working Party
- Child Safety Working Group
- Concept
- Top Pick List
- Dummies
- Outlook



How can we improve?



Objective

- Improve child protection assessment within Euro NCAP by:
 - Enhance the relevance to real-world by including better tools, addressing all relevant child ages and adding misuse and ease-of-use aspects
 - Putting equal pressure on all stakeholders in accordance to their responsibility
 - Promoting rearward facing seats for taller children (up to about 3 years) and ISOFix usage
 - In support of regulatory developments

Topics for discussion

- Separation of CRS assessment from car assessment for smaller children
- Independent CRS classification including misuse, ease-of-use and dynamic results
- Replace younger children by older children in the dynamic car test
- Base car assessment on CRS-car interface, front/side dynamic score older children and vehicle based assessment

- Mandated by BoD in June 2009
- Chaired by Bernd Lorenz (BAST)
- Secretary: Britta Schnottale (BAST)
- Delegates/members:
 - Michiel van Ratingen / James Ellway / Richard Schram (Euro NCAP)
 - Andreas Ratzek / Volker Sandner (ADAC)
 - Jim Hand (DfT)
 - Rob Wegman (Dutch MOT)
 - Ronald Vroman (ICRT)
 - Hans Ammerlaan (RDW)
 - Anders Lie (SRA)
 - Johan Strandroth (STA)
 - Francois Minne (UTAC)
 - Marc van Slagmaat (Autoliv)
 - Farid Bendjellal / Francois Renaudin (CLEPA)
 - Christoph Weimer / Joachim Fausel / Celine Adalian / Raimondo Sferco (ACEA/JAMA/KAMA)
- Meetings:
 - 1st July 2009
 - 29th September 2009
 - 23rd November 2009
 - 16th February 2010
 - 15th April 2010
 - 1st/2nd June 2010 Workshop
 - 21st/22nd July Protocol Subgroup
 - 28th October 2010
 - 22nd November 2010 WebEx

Child Protection

- **Cooperation with ETC (and possibly others)**
- **Use CRS consumer ratings to identify “best performing child seats” available on European market**
- **Re-focus on CRS compatibility, vehicle assessment and dynamic results**
- **Promote rear seat occupant protection (adults/taller children)**
- **Add luggage loading requirements**

European Test Consortium for CRS

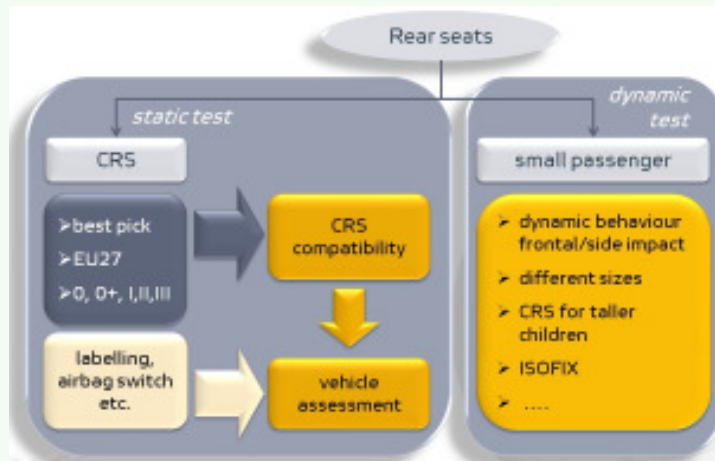
ETC **ADAC**

European Test Consortium for Child Restraint Systems

- A joined test consortium of the *European Automobile Clubs* and a *Worldwide Association Of Consumer Organisations*
- Working together on the topic of child safety since 2003
- More than 250 crash tests and 500 handling tests are performed every year
- The harmonised results are published twice a year by the 30 partners
- Every partner is using his own logo, presentation format and identity

Status: Oct. 07th 2008

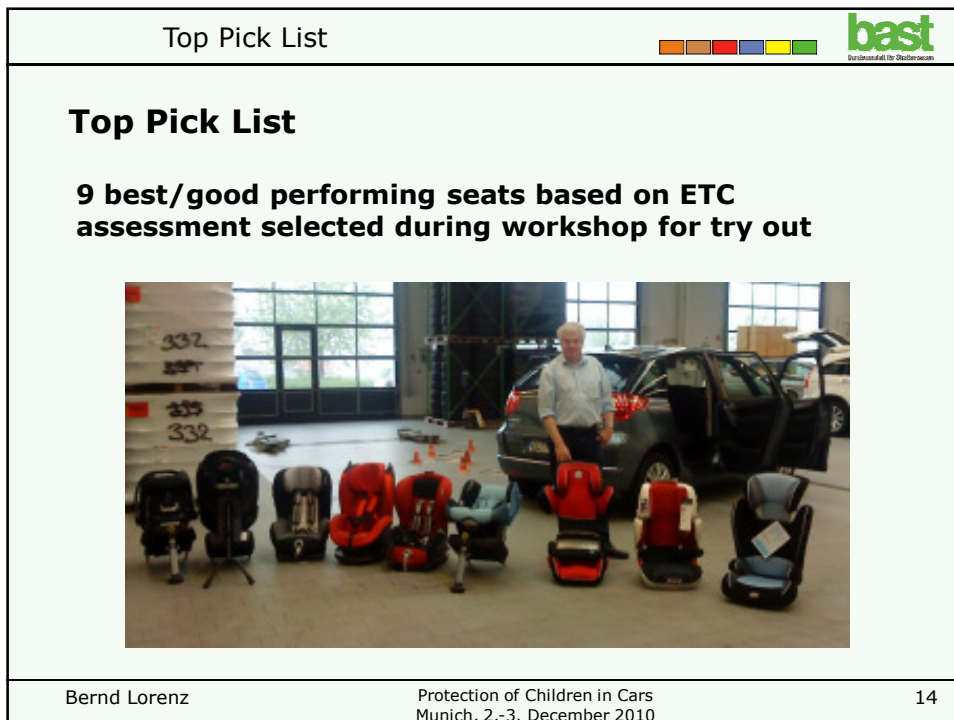
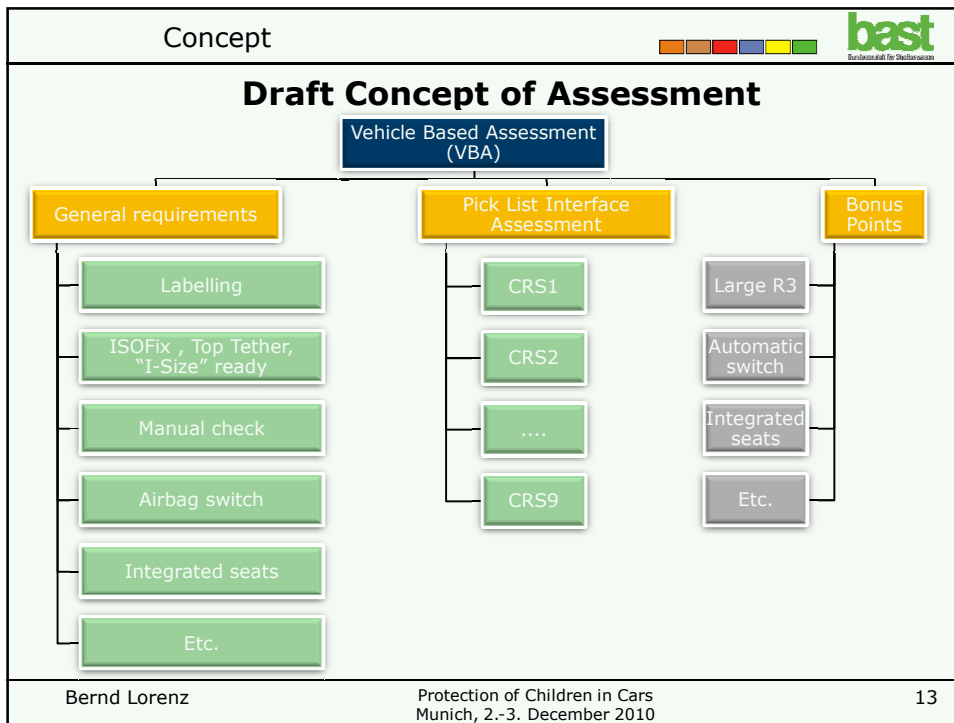
Concept of New Assessment



Best Pick

- **Best/good performing seats of ETC-Tests**
 - **Dynamic assessment in frontal and side test**
 - **Misuse and handling test**
- **European market**
- **Variant CRS seat types, like ISOFix, belted, support leg, top tether ...**
- **All weight classes covered, group 0 towards group III, plus combinations**

needs to be published and annually reviewed



Top Pick List

- Group 0+: Maxi Cosi Cabriofix with Easyfix (covers all cases)
- Group I: Britax King Plus,
Maxi Cosi Tobi,
Roemer Duo Plus,
Maxi Cosi Priorifix semi universal
- Group I/II/III: Kiddy Guardian Pro
- Group II/III: Roemer Kid Fix,
Concord Transformer XT
- Additionally: HTS Besafe iZi Kid X3 IsoFIX (large rearward facing seat)

Example from Top Pick List

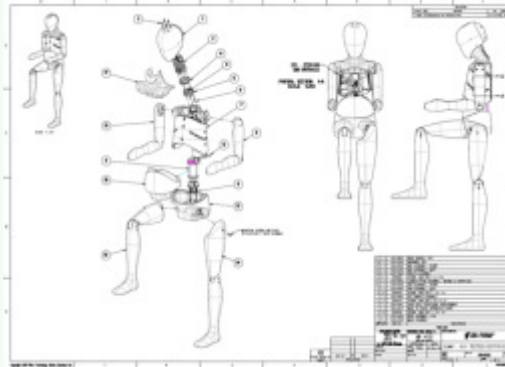
- **Group 0+ infant carrier**
 - **Central Europe and southern Europe**
 - **Different solutions**
 - **Without base**
 - **With belted base (with/without support leg)**
 - **With ISOFix base and support leg**



Status Q10 Development



- Q10 design frozen January 14, 2010
- Q10 drawing package completed February 05, 2010
- Q10 design justification currently under review inside EPOCH



Bernd Lorenz

Protection of Children in Cars
Munich, 2.-3. December 2010

17

Design features

- CANDAT anthropometry
- Omni directional neck
- Humanlike
 - Shoulder with neck shield
 - Pelvis (internal bone)
- Ribcage with metal insert
- Two chest displacement sensors (for frontal and side)
- Provisions for side impact
 - Femur load cell
 - Pubic Symphysis load cell
- 52 data channels possible
- Onboard DAS ready

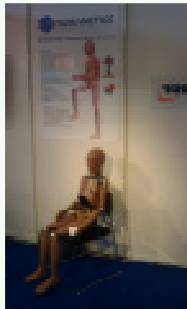


Bernd Lorenz

Protection of Children in Cars
Munich, 2.-3. December 2010

18

Outlook Q10 Development



- Q10 dummy at the fair "Kind und Jugend" in Cologne September 2010
- EPOCH Q10 workshop in advance of Landwieder conference Munich, December 2010
- EPOCH consortium testing at DOREL, TRL and IDIADA according to UNECE R44 and NPACS protocol between Nov 2010 to April 2011
- End of EPOCH project December 2011



Open Issues

- **How to deal with two seaters and cars with limited rear space?**
- **Experience with and availability of the Q6 and Q10.5 dummy**
- **Suitable biomechanically based injury criteria for the Q6 and Q10.5 (EPOCH project, activities of CSWG members ?)**
- **Seating positions for dynamic test**
- **How to deal with manufacturer recommended CRS and integrated CRS?**
-

Progress and Plan

- Vehicle based assessment
 - Agreed "concepts" document: circulation amongst members for comments
 - Next steps (2011)
 - Trails using topic list seats at ADAC, BAST, UTAC, TNO, ... on different sizes of vehicles
 - Drafting of detailed protocol & scoring
- Dynamic performance assessment (2011)
 - Experience with and availability of the Q6 and Q10.5 dummy
 - Suitable biomechanically based injury criteria for the Q6 and Q10.5 (EPOCH project, activities of CSWG members)
 - Seating positions for dummies
 - **Links with front & side impact WGs**

Thank you for your attention !



(Quelle: Auto Bild, 42/99)