

# Workshop at BAST 3./4.8.

- Participants

- Opel (Fr. Scholz/Hr. Eikemeier)
- Audi (Dr. Weber)
- Ford (Hr. Moerke/Fr. Greyff/Hr. Frosch)
- Kiddy (Hr. Diezel)
- Takata (Dr. Nett)
- Cybex (Fr. Krebs)
- MHH (Dr. Johannsen)
- BAST (Fr. Schnottale)

- Vehicles

- Opel Corsa
- Opel Astra SportsTourer
- Audi Q7
- Audi A6 Avant
- Ford S-MAX

- ▶ CRS

- ▶ Takata Maxi
- ▶ Römer KidFix XP
- ▶ Cybex Solution X-Fix

- ▶ Prüfkörper

- ▶ „F4“-universal
- ▶ Gabarit
- ▶ ISO F2x
- ▶ ISO R2
- ▶ i-Size support leg
- ▶ ISO R3 (Dr. Weber)
- ▶ ISO L1/2 (Fr. Scholz/Hr. Eikemeier)

- ▶ Others

- ▶ ISOFIX attachments

# Pictures



# Assessment results

- Ford S-MAX
  - 3x ISO 440mm → possible, no asses to belt buckle
  - 3 CRS G2/3 (max 500mm) possible also with ISOFIX; buckle use possible (contact between CRS)
- Audi Q7
  - 3x ISO 440mm → not possible
  - 3 CRS G2/3 with ISOFIX- not possible;
  - 3 CRS G2/3 (max. 500mm) without ISOFIX possible, contact between CRS
  - Mid rear : Gabarit not ok, F4 ok
- Audi A6 Avant
  - 3 CRS G2/3 not possible
- Opel Corsa
  - 3 CRS G2/3 not possible
- Opel Astra SportsTourer
  - 3 CRS G2/3 not possible

# Assessment Results

## (fixtures on iSize ready seating positions)

- F4 440mm
  - Single positioning: Fits on all vehicles with ISOFIX and belt; buckle usage difficult on small seat places (no problem with real CRS)
  - Remaining space in the middle between two 2 F4 440mm out board
    - 250mm (Corsa)-480mm (S-MAX)
- F4 520mm
  - Single positioning: Fits on all vehicles with ISOFIX and belt; buckle usage difficult on small seat places (no problem with real CRS)
  - Remaining space in the middle between two 2 F4 520mm out board
    - 170mm (Corsa)-400mm (S-MAX)
- Gabarit
  - Belt routing Gabarit and F4 different

F4 440mm	F4 520mm
Single seat homologation possible	Single seat homologation possible
3-in-a row only in a small number of vehicles possible (just ISOFIX use)	3-in-a row not possible (even not without ISOFIX)
95% only for 125 cm child height	95% for 135 cm child height
135 cm only 50%	150cm 50%+x% (x% needs to be varified)
Tests with Q6; Q10 not possible	Tests with Q10

### Current Situation

CRS in workshop between 470mm and 510 mm

3 CRS in a row possible depending on shape and adjustment and vehicle

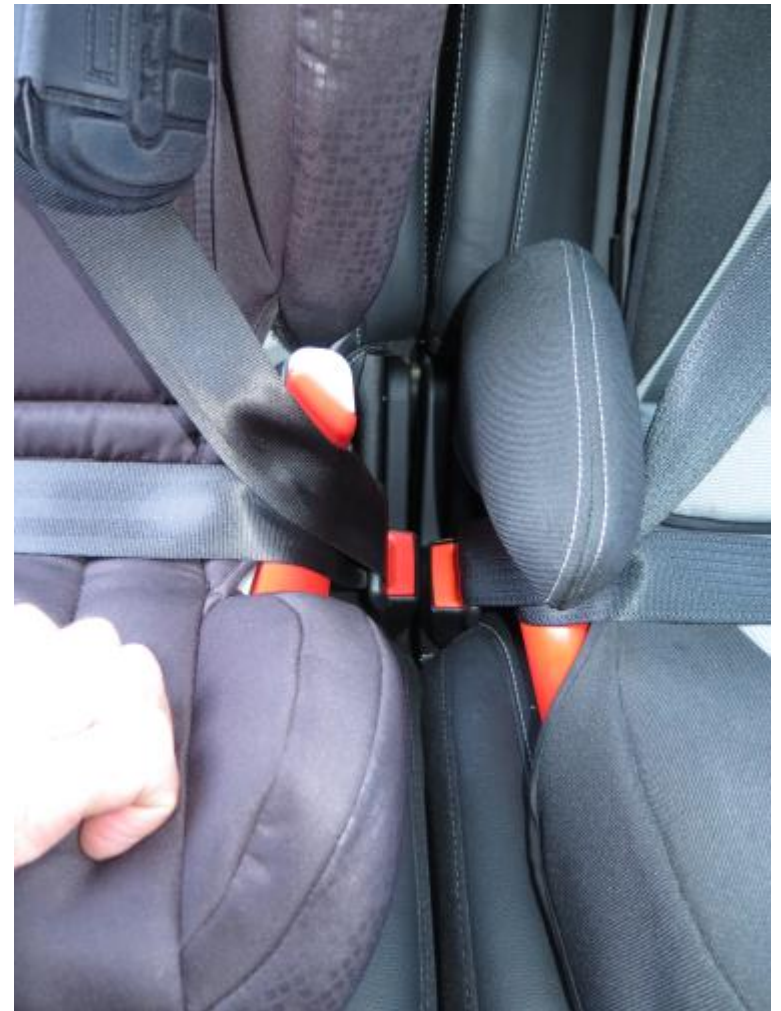
Q10 fits in all CRS at the workshop

Current real situation is better than fixture installation

# Belt guidance F4 vs. CRS vs. Gabarit



# Buckle access and size difference Fixture vs. CRS

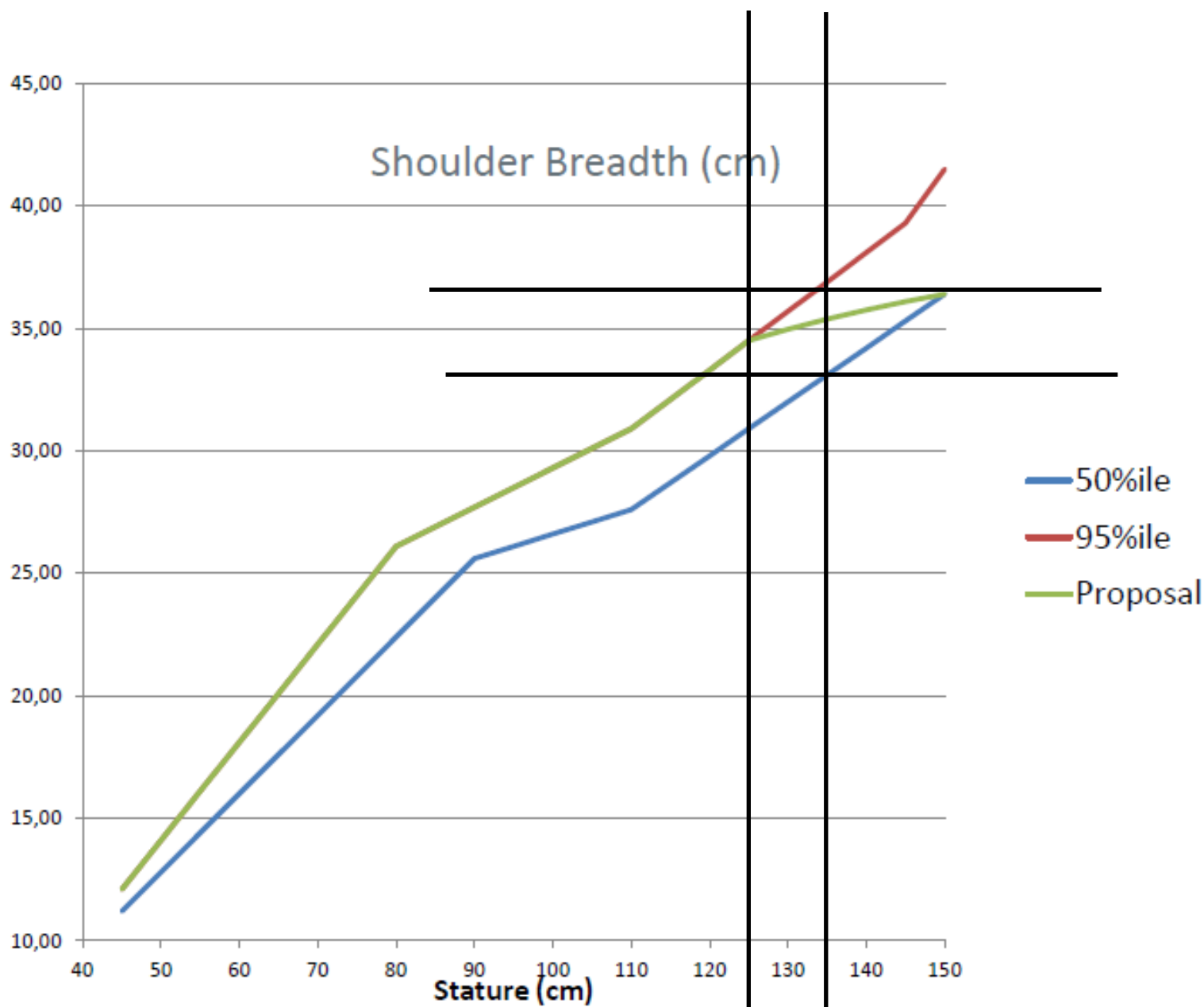




# Findings

- during the workshop, no relevant benefit with regard to 3-in-a-row was seen for F4 440 mm (fits only in single vehicles)
- disadvantage F4: 440mm no 10 year old in these boosters (change for the worse compared with existing situation)
- for the F4 changes for belt routing and buckle access in the lower part is necessary





# Proposal

- **Changing size concept as in the CLEPA Proposal**
  - 125 (95%) → 150 (50%)
- **No requirement for 3-in-a-row fixtures for all vehicles**
  - CRS are different from fixtures regarding flexibility
  - Size inside vehicles are restricted
- **Height of fixture no big problem in assessed vehicles**
  - no use of ISOFIX connectors
- **Width of fixture for bigger children >125cm**
  - Q10 should be used for testing frontal and side impact
    - Due to law in many European Countries CRS use up to 150cm
  - Maximum width between 480mm and 500mm
    - Reducing to 440mm would lead to decreasing child passenger safety
  - Belt path should be updated for better compatibility