

Status Report of the Informal Working Group on Safer Transport of Children in Buses and Coaches (IWG-STCBC)

70th GRSP Session
6 – 10 December 2021

CHAIR: MARTA ANGLÈS , SPAIN

SECRETARY: FARID BENDJELLAL, CLEPA

Informal Working Group

⊕ 1st IWG-STCBC meeting

Date: 9th July 2019

Location: Ministerio de Industria, Comercio y Turismo , Madrid, Spain

⊕ 2nd IWG-STCBC meeting

Date: 30th October 2019

Location: Applus IDIADA, Tarragona, Spain

⊕ 3rd IWG-STCBC meeting

Date: 16th-17th January 2020

Location: Clepa Offices, Brussels

⊕ 4th IWG-STCBC meeting

Date: 29th October 2020

Location: Online meeting

⊕ 5th IWG-STCBC meeting

Date: 28th January 2021

Location: Online meeting

⊕ 6th IWG-STCBC meeting

Date: 22nd April 2021

Location: Online meeting

⊕ 7th IWG-STCBC meeting

Date: 7th September 2021

Location: Online meeting

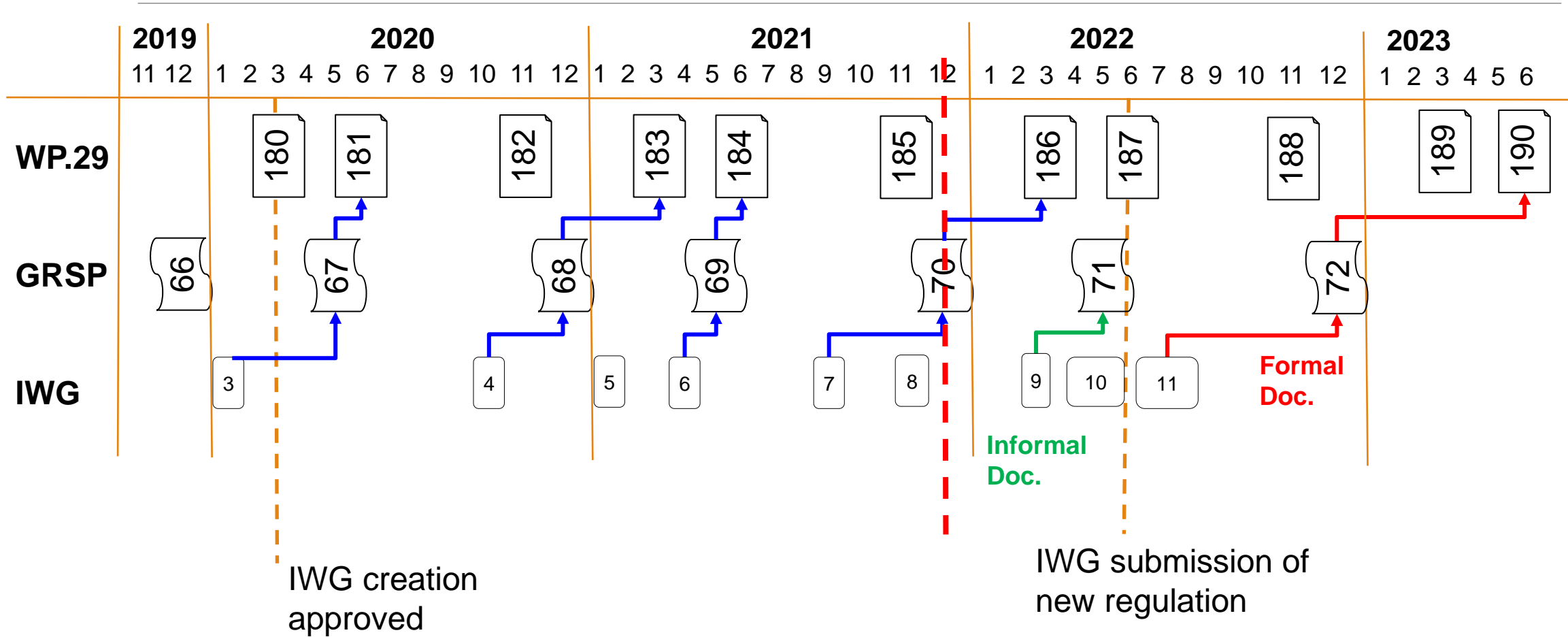
⊕ 8th IWG-STCBC meeting

Date: 10th November 2021

Location: Online meeting

Timeline

Plan and Schedule



Key elements

- ⊕ Test configurations: Frontal impact and rollover
- ⊕ Retention system: 2-point belt and 3-point belts
- ⊕ Consideration of the CRS (if needed): R-129 approved CRS
- ⊕ Test method, R80 pulse
- ⊕ Compatibility of R-16 fixtures
- ⊕ Built in systems are inside the scope of this Regulation

UNDER
CONSTRUCTION



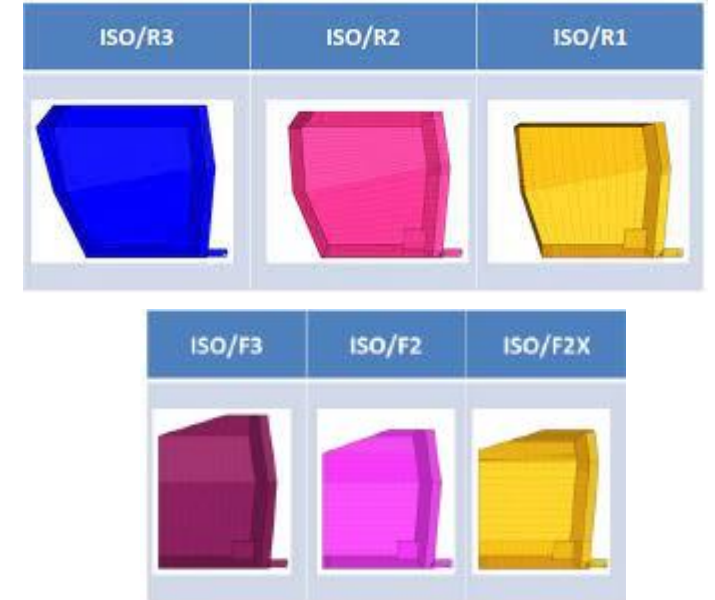
On going tasks

- ⊕ Market overview of seat belt installation
 - To clarify where a CRS will be installed and in which conditions.
 - Understand the occupation scenario of children in buses and coaches
- ⊕ Market overview on children using Bus/Coach
- ⊕ Market overview in built in systems
- ⊕ Possibility to install CRS in the Bus/Coach
- ⊕ Testing phase



ISO Envelopes compatibility

- ⊕ CAD study was performed by OlCA using the UN R-16 envelopes
The study showed some incompatibilities which may lead in losing some seating positions.
- ⊕ Physical installation of different size of CRS to be performed in a Bus/Coach to verify the compatibility/incompatibility



CRS compatibility in M3 vehicle

Conclusions for the vehicle tested (not valid for all vehicles in the market)

- ⊕ Gangway : interaction of all CRSs with lower part , but no interaction if CRSs are lifted.
- ⊕ Belt length: was short for the infant carrier but was acceptable with an iSize infant carrier in installation behind driver or passenger seats
- ⊕ Space between rows -mid : impossible to install any of the tested seats except the i-Size booster where the installation of a Q10 seems to be good
- ⊕ Small interaction between the i-Size booster's wing with the window



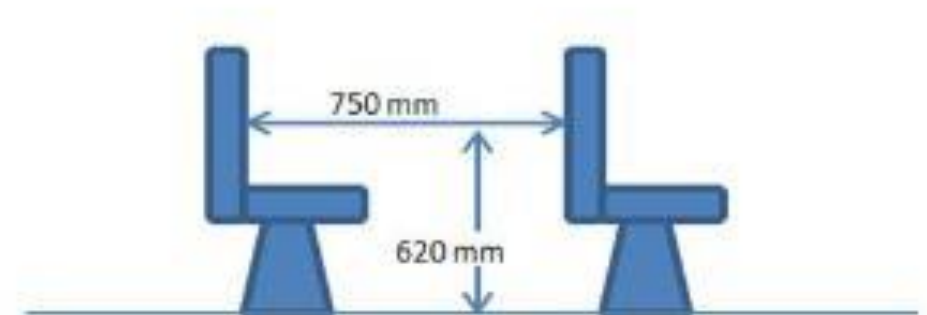
Test pulse

- ⊕ It has been agreed inside the IWG to keep the UN R80 test pulse

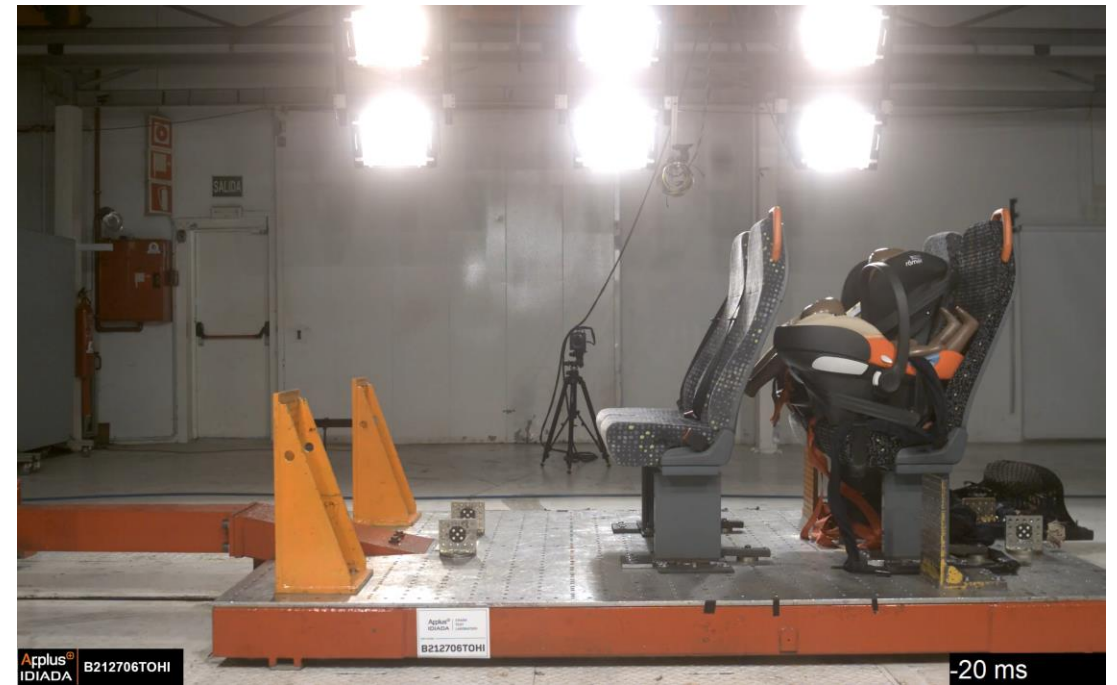
Tests and tests results

Dummy		3 pts & CRS	3 pts
Q1,5	Infant carrier	X	X
Q3	Toddler	X	X
Q6	Booster cushion	X	X
Q10	Booster cushion	X	X

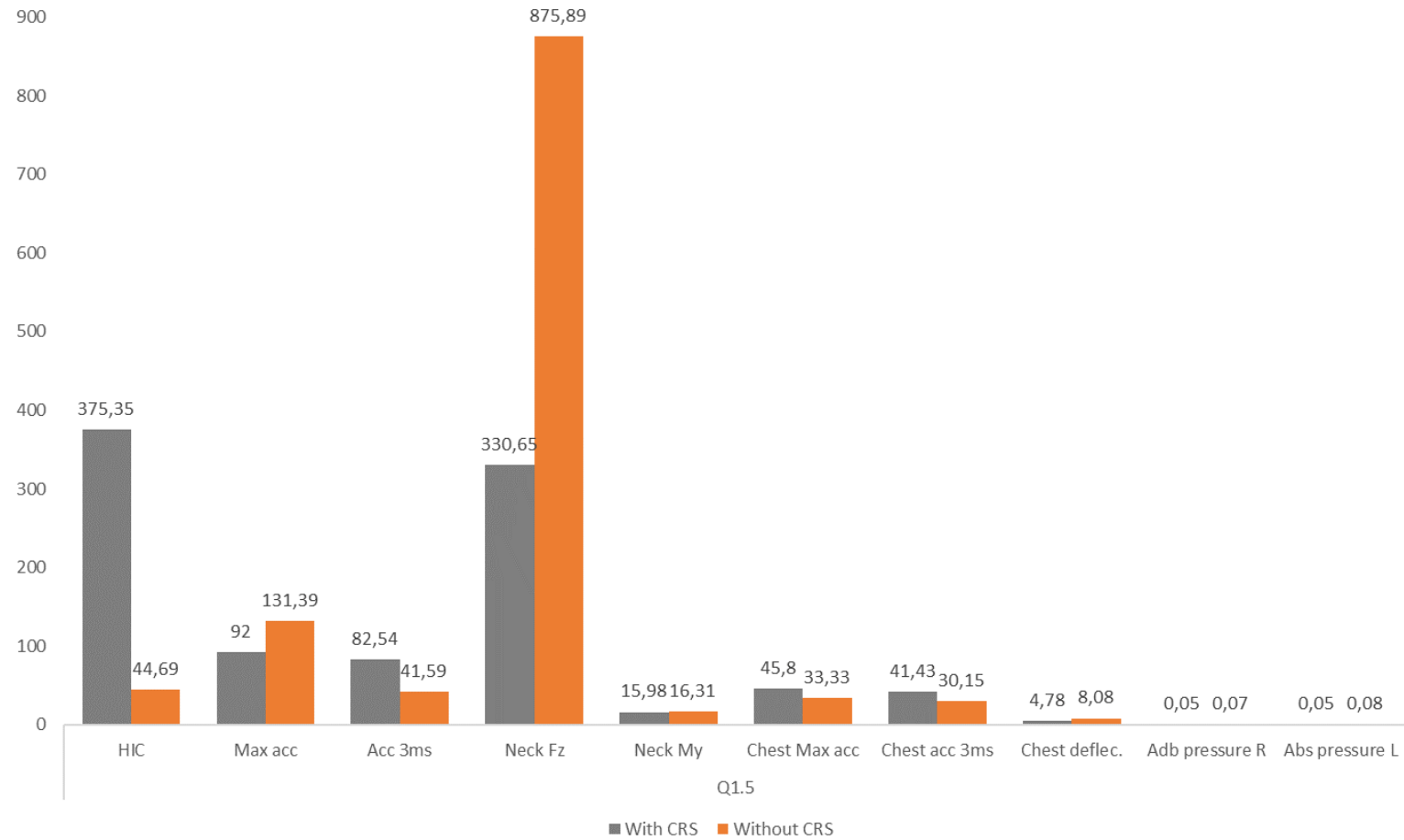
- ⊕ CRSs: Infant carrier, toddler, booster cushion
- ⊕ Dummies: Q1.5, Q3, Q6 and Q10
- ⊕ Test configuration:
 - 3pts vs. 3pts + CRS,
 - 2 rows of seats
 - Distance between seat R80
- ⊕ R80 test pulse



Q1.5 with and without CRS



Q1.5 with and without CRS



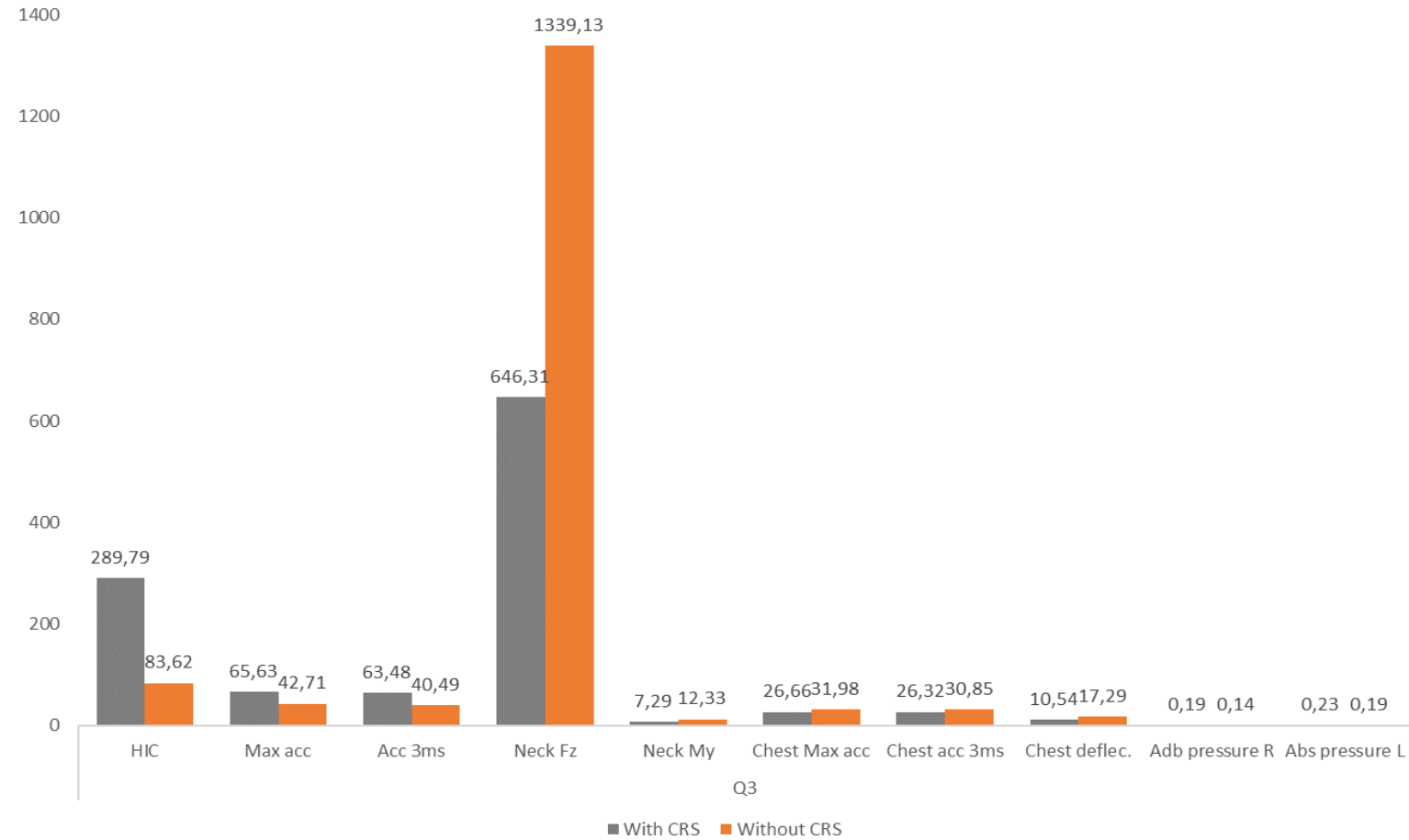
Q1.5 with and without CRS



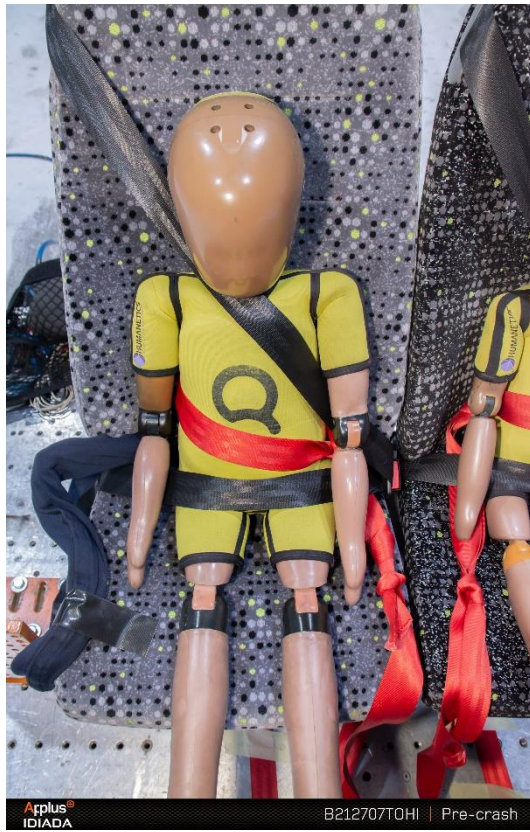
Q3 with and without CRS



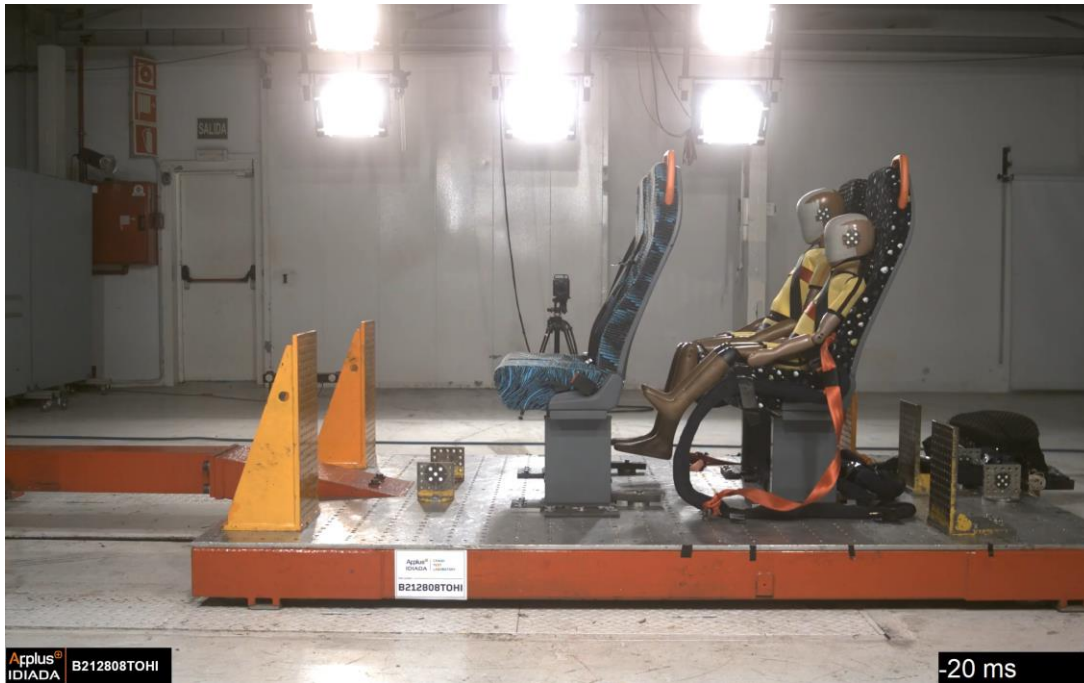
Q3 with and without CRS



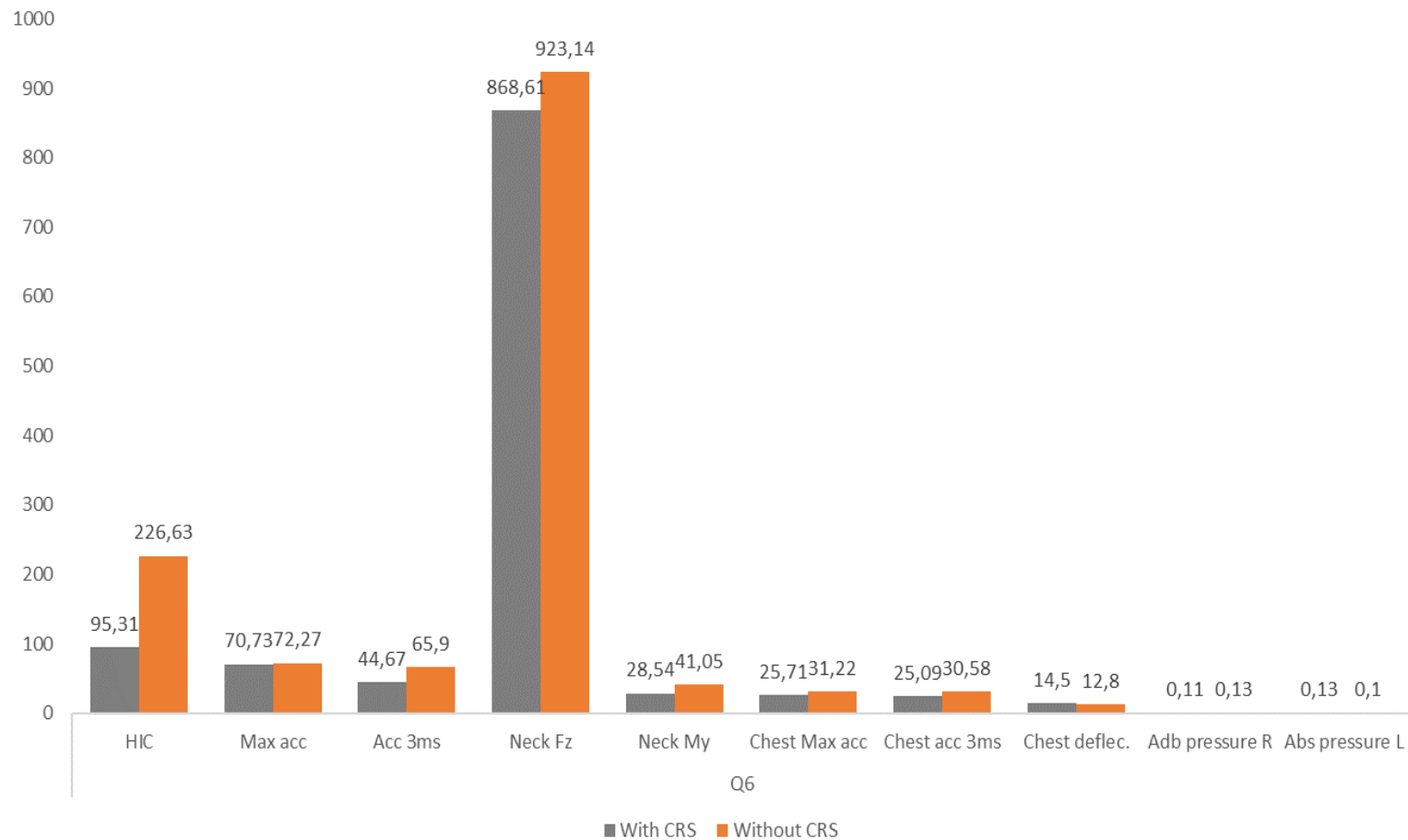
Q3 with and without CRS



Q6 with and without CRS



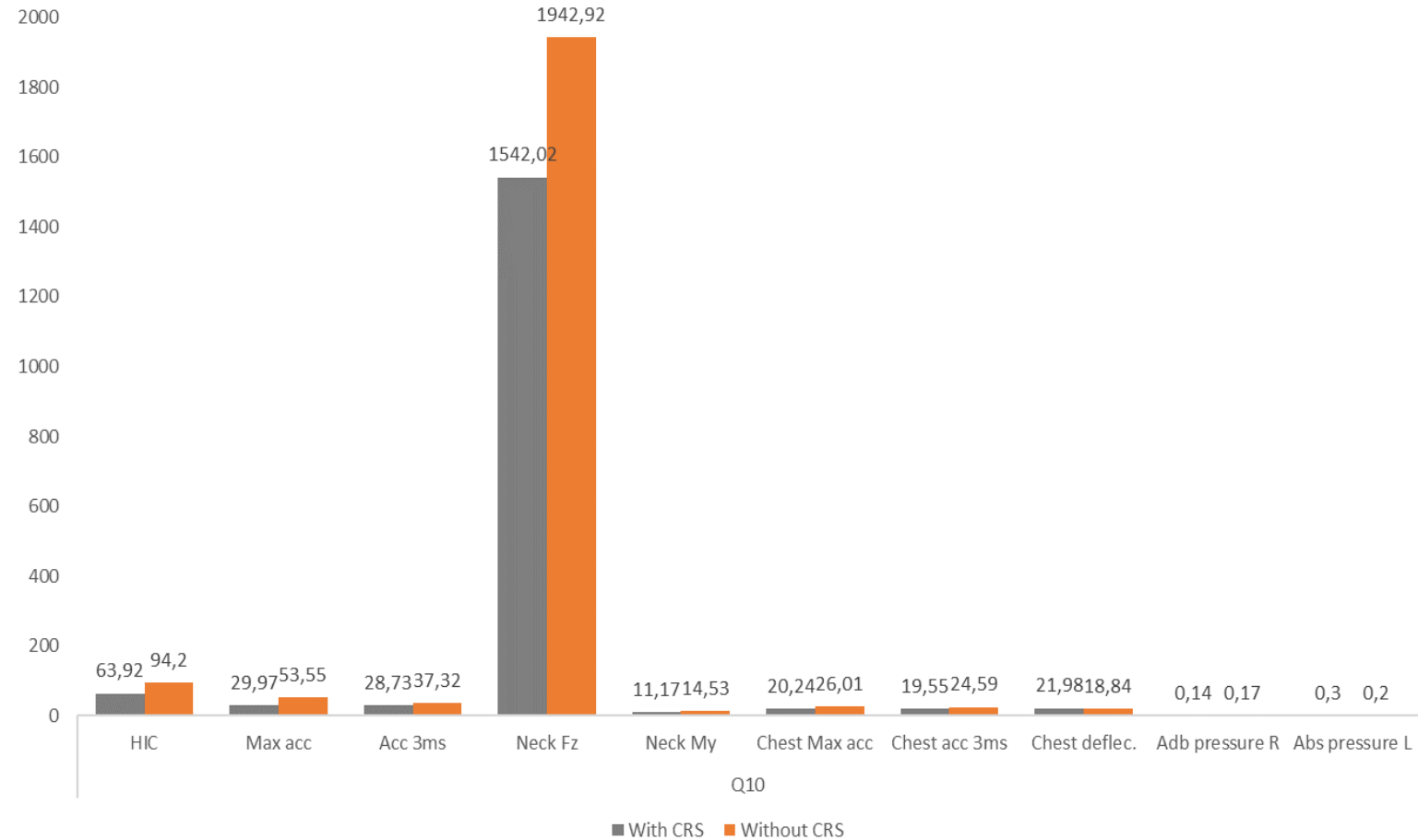
Q6 with and without CRS



Q10 with and without CRS



Q10 with and without CRS



Discussion

Smaller children
Q1.5 – Q3

Belt routing in general
for shoulder belt and
lap belt no favourable
when they are not
using CRS

Bigger children
Q6 - Q10

Better results using
booster cushion than
without

Next Steps

- ⊕ Drafting the UN Regulation
 - Defining requirements
 - Developing tests procedures
 - Developing of the test bench
- ⊕ ISO envelope compatibility
- ⊕ Physical installation of CRS in Bus/Coach environment
- ⊕ Meeting with the buses and coaches operators, to check compatibility with CRS and vehicles.

Thank you for your attention!
