

# UN-R16 proposal by Japan

## ECE/TRANS/WP.29/GRSP/2021/19

OICA discussion



## Summary of technical analysis

- Findings by Japan show for booster seats secured by both seat belt and ISOFIX:
  - The seatbelt slipped upward toward the dummy's neck by a larger amount
  - The dummy's knee position was located further forward
  - The angle between the dummy's upper body and thigh was larger → submarining effect
  - Neck upper tension, chest acceleration, abdominal pressure are higher
- Main reason for higher loads is slack in the belt system due to double fixture by belt and ISOFIX
- Increased movement between cushion part of the booster seat and child/dummy in case of booster seats fixed by ISOFIX and booster seat not following the dummy when moving forward
- During IG Child Safety, 31<sup>st</sup> meeting, no safety benefit for booster seat with belt and ISOFIX was recognized, just slight higher dummy loadings



# Summary of OICA position

## Summary

- Installing booster seats with belt and ISOFIX could cause slack in the belt system which leads to increased dummy loadings
- A change in UN R16 cannot guarantee that similar situation will not occur when booster seats with ISOFIX attachments are used as universal ECRS without checking them in the vehicle environment
- There is no general safety benefit for booster seats with ISOFIX attachments
- The problem (dummy loading, dummy movement...) is not occurring when the booster seat is installed using the vehicle safety belt

## OICA proposal

- Booster seats with ISOFIX attachments should be homologated (UN R129) as “specific to vehicle” and not “universal” or “i-Size”
- There are no other indications to change UN R16
- Alternatively: add some requirement in UN R129, to ensure ISOFIX connectors in the booster seat shall not take any load during a dynamic test on the UN R129 test bench with smallest dummy