Presentation of main findings in report from: Norwegian Safety Investigation Authority (NSIA) related to a high-speed frontal road-collision (GRSP-69-02)
REPORT ON A HEAD-ON COLLISION BETWEEN A PASSENGER CAR AND A VAN ON THE E39 AT AUSTEFJORDEN, VOLDA, MØRE OG ROMSDAL ON 20 OCTOBER 2019
The drivers and front seat passengers in both vehicles sustained only minor injuries. In the rear seat of the estate car, one person was killed instantly, one died later and a third person suffered life-threatening injuries.

Frontal collision at ca. 80 km/h and ca. 100% overlap

Figure 2: Final positions - northbound van and southbound passenger car photographed at 11:48. Photo: The police
Figure 5: External deformations on the van and the interior of the passenger compartment. Illustration/photo: NSIA
Focus on rear seat back with integrated belt-system
Approx. 1% of fatalities are related to the centre-position last 5 years.
Passenger often more injured in the rear seats.
Figure 2
Testing of a partitioning system above the backrest

Figure 19: Test of seat-back with 2 x 18 kg luggage and 10 kg against the head restraint in a sled test at 50 km/h. The minimum requirement for forward deformation of the seat-back is described below. Source: UN-ECE R17
Discussion: What can be improved?

- Increase the test-mass (90 kg luggage proposed in 2003 by ANEC)
- Reduce allowed post-test deformation (100 mm/150mm)
- Add crash-test dummy(ies) in the seat during dynamic-test (without measurement)

Figure 25: Strength requirements for rear seat-backs - showing middle rear passenger and seat belts with alternative shoulder belt anchorages. (Note: R-point is determined by the car manufacturer and will vary). Illustration: NSIA