

Abstracts

Does Virthuman suggest non-standard seating for families in highly automated vehicles?

Abbas Talimian, Ph.D.

University of West Bohemia

21 Sep
10:40am

Highly automated vehicles (HAVs) will be the main part of future mobility. The usage of automated driving systems (ADS) in HAVs can remarkably decrease car accidents. But it takes a long time to equip all vehicles with fully automated systems. Since then, considering passenger safety in car crashes is a must. On the other hand, a vehicle's interior faces fundamental changes by increasing the share of machines in controlling a vehicle. For instance, cars no longer need a steering wheel. It gives a chance to HAVs' occupants to rotate their seats and be in non-standard seating configurations. The present study's simulations were done by the application of Virthuman model - two genders and different ages (Boy, Girl, Female and Male) - showed these non-standard seating configurations can be safe for a family. But current passive safety tools are not efficient to be used in non-standard seating configurations hence some modifications are needed to be done on the vehicle's seat. More specifically a seat's headrest and seatbelts.

