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## An analysis of European crash data and scenario specification for heavy truck safety system development within the AEROFLEX project

Ron Schindler<sup>a\*</sup>, Michael Jänsch<sup>b</sup>, Heiko Johannsen<sup>b</sup>, András Bálint<sup>a</sup>

<sup>a</sup>*Department of Mechanics and Maritime Sciences Chalmers University of Technology, Göteborg, Sweden*

<sup>b</sup>*Accident Research Unit, Medizinische Hochschule Hannover, Hannover, Germany*

### Abstract

Heavy goods vehicles (HGVs) are involved in 4.5% of police-reported road crashes in Europe and 14.2% of fatal road crashes. Active and passive safety systems can help to prevent crashes or mitigate the consequences but need detailed scenarios to be designed effectively. The aim of this paper is to give a comprehensive and up-to-date analysis of HGV crashes in Europe. The analysis is based on general statistics from CARE, results about trucks weighing 16 tons or more from national crash databases and a detailed study of in-depth crash data from GIDAS. Three scenarios are identified that should be addressed by future safety systems: (1) rear-end crashes with other vehicles in which the truck is the striking partner, (2) conflicts during right turn maneuvers of the truck and a cyclist and (3) pedestrians crossing the road perpendicular to the direction of travel of the truck.

*Keywords:* heavy goods vehicle; crash scenarios; GIDAS; CARE; crash causation; European national crash data

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\* Corresponding author. Tel.: +46 70 509 1536;

E-mail address: ron.schindler@chalmers.se

<https://orcid.org/0000-0002-5895-3387>