

# VISION ZERO

## Zero Falls from Trucks – Vision Zero in Transportation

VISION ZERO  
PRACTICE



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## Key Facts

- ▶ Hidden risks for truck drivers: beyond driving, routine tasks like securing loads, working on superstructures or entering/exiting the vehicle expose truck drivers to various dangers, which result in significant accidents.
- ▶ TOP prevention approach: combining technical, organizational and personal measures, health and safety hazards are addressed through e.g., standardizations, guidelines, educational tools.
- ▶ Vision Zero Strategy: a combination of various activities raises awareness about the risks while utilizing existing preventive measures and developing new approaches to shape a safer future for the industry.

*In the complex world of trucking, the occupational risks faced by drivers extend far beyond the road. Falls and accidents during routine tasks while working on and with commercial vehicles pose significant risks, emphasizing the need for heightened awareness. A comprehensive approach, integrating technical advancements, educational initiatives, and ongoing analyses, is key to creating a safer work environment and pave the way for a future where truck drivers can navigate their responsibilities with safety and wellbeing.*

A truck driver's job is multifaceted, extending far beyond driving itself. While navigating traffic poses its own inherent risks, numerous additional hazards arise due to the wide range of uses and technical equipment of the vehicles. The alarming number of occupational accidents involving trucks suggests that achieving Vision Zero - a world without fatal and serious accidents and occupational illnesses - remains an

ambitious goal. This article sheds light on the risks faced by truck drivers, particularly those related to falls from vehicles, and explores ongoing efforts to prevent such accidents.

### John (32 years, married 2 children)

John works for a general cargo company. It is Monday morning. He was assigned to transport wood components to a customer. While securing the load, John fell from the vehicle and suffered multiple fractures. He was found unconscious next to his vehicle.

⇒ *Slipping, stumbling, or stepping backwards while securing loads often results in falls from the loading platform!*

### Emma (52 years, mother of 3)

At 9 am, Emma went to her truck and wanted to get into the cab in order to deliver drinks. In doing so, she grabbed the handle, which broke. She fell backwards onto the asphalt and broke her hip. Emma went to a clinic and required surgery.

⇒ *It is not uncommon for falls to occur when getting in and out of the vehicle!*

### Bill (48 years, married, 2 children)

Bill was securing lumber on his trailer for a paper mill using chains. In heavy rain and darkness, he stepped backwards and lost balance. Bill fell from the trailer and broke both arms.

⇒ *Again and again, workers fall from vehicle superstructures due to slipping, losing balance or stepping into empty space!*

“ Injuries can vary from minor sprains, resulting in just a couple of sick days, to more severe incidents causing back or head injuries and weeks of absence, and in some cases even fatal injuries. ”

## Dangers beyond Driving

Truck drivers like John, Emma and Bill exemplify the risks and dangers associated with their profession. John's fall while securing a load, Emma's incident while entering her truck and Bills accident due to stepping into the void highlight the often-overlooked risks involved in day-to-day tasks in their profession (see Figure 1). Falls from loading platforms and superstructures, slipping while securing loads and accidents during the entry and exit from the vehicle are prevalent and constitute a significant portion of work-related accidents.

Figure 1. Hazards when working with commercial vehicles



## Facts and Figures

According to data from BG Verkehr, nearly 10% of the 60,000 work-related incidents registered annually involve falls, with two-thirds of these fall accidents occurring in conjunction with commercial vehicles. Road haulage, waste collection, movers, and transport logistics are the sectors most affected (Figure 2). The majority of falls are recorded during entering and exiting the driver's cab, as well as while working on superstructures, tail lifts, and loading platforms. Fortunately, many incidents resulted in only a short absence from work (i.e., 4 to 7 days). However, a relevant portion of these incidents led to an inability to work of more than 6 weeks (Figure 3).

Figure 2. Percentage distribution of work-related fall incidents by trades (BG Verkehr)

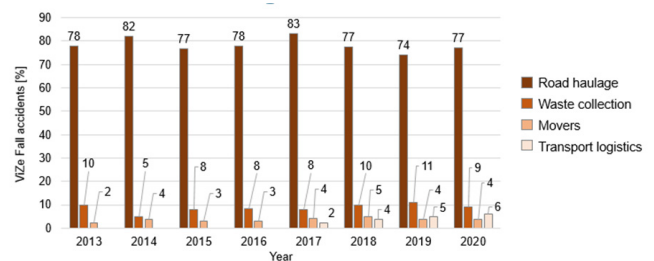
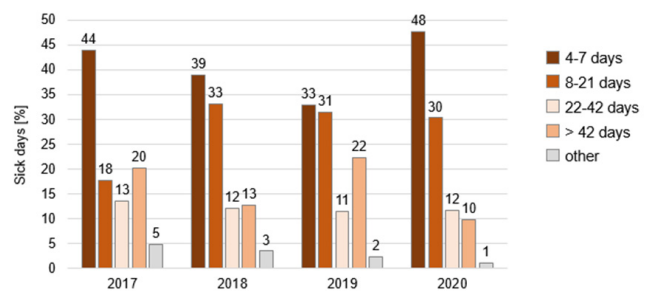


Figure 3. Percentage breakdown of durations of work incapacity following fall accidents involving commercial vehicle (BG Verkehr)



## Deep Dive into analysing Fall Incidents

Due to the prevalence of incidents involving falls from loading areas, platform lifts, superstructures, and the driver's cab, two specialized surveys were developed to gain insights into the specifics of these accidents. Labor inspectors used these surveys to conduct accident analyses. Over the course of one calendar year, concluded in the winter of 2023, details of 244 fall incidents were gathered, with one quarter covering falls while entering or exiting the driver's cab. Preliminary findings suggest that falls from loading areas, tail lifts, or superstructures tend to be more severe than those from the driver's cab. Most falls from loading areas, platform lifts, or superstructures incidents were observed at third-party operations, while more fall incidents from the driver's cab occurred at construction sites and public traffic areas. Analysis of the collected data is still ongoing.

“ **The standard incident investigation typically gathers approximately one-third of the details obtained through the detailed survey used for the special investigation.** ”

## OSH Hierarchy – Implementation of Preventive Measures

Efforts to prevent falls from commercial vehicles must involve a combination of technical, organizational and personal measures. Guidelines emphasize technical safety features such as sufficiently wide and deep treads as well as easily accessible handles (Figure 4). Organizational measures include considering the vehicle's future use during procurement to ensure it is equipped with adequate safety measures [1].

Additionally, guidelines promoting the truck as a safe and healthy workplace aid in selecting appropriate safety features. Addressing behavioral factors contributing to incidents, such as absentmindedness and poor judgment, requires educational initiatives. For instance, stickers placed inside trucks remind drivers to wear proper footwear, or short instruction videos facilitate regular instructions based on the risk assessment and raise awareness about typical hazards [2,3].

## The Vision Zero Strategy – Our Road to ZERO Falls from Trucks

To ensure that preventive measures have a lasting impact, it is essential to address all 7 levels of the so-called effect model of change [4], that is:

- 1 CAPTURING ATTENTION
- 2 RAISING AWARENESS
- 3 GARNERING ACCEPTANCE
- 4 IMPARTING KNOWLEDGE
- 5 INFLUENCING ATTITUDE
- 6 ENCOURAGING BEHAVIOR CHANGE
- 7 MODIFYING CONDITIONS

For instance, merely producing a booklet may capture attention and convey information, but it is unlikely to induce behavioral or environmental changes. However, when combined with other initiatives such as on-the-job training, repeated sensitization, and emotional engagement, attitudes and behaviors are more likely to be influenced. Moreover, with leadership support, improvements in working conditions become feasible. Therefore, our strategy for our

Vision Zero Initiative "Falls from Trucks" employs a variety of activities and initiatives, including:

- ⇒ disseminating information through websites, newsletters, and publications
- ⇒ raising awareness through talks and presentations at trade fairs, trucker shows and conferences
- ⇒ distributing branded giveaways
- ⇒ discussing recent developments, legal issues and new technological trends with experts
- ⇒ organizing industry conferences and symposia to get relevant stakeholders involved
- ⇒ initiating standardization and other projects

To effectively influence human behaviour and foster lasting change, it is crucial to capture attention, raise awareness and cultivate acceptance for the issue at hand. Providing knowledge helps shape attitudes, ultimately influencing behavior and improving the work environment.

## Conclusion

The risks faced by truck drivers extend far beyond the mere act of driving, requiring a comprehensive approach to ensure their safety, health and wellbeing. The Seven Golden Rules of the Vision Zero framework embody this holistic approach by addressing all levels of work and the organizational culture. While progress has been made in understanding and mitigating certain risks, sustained efforts and collaborative initiatives are crucial to achieving Vision Zero and ensuring the well-being of those who keep our supply chains moving. Our Vision Zero Initiative aims at delving deeper into the underlying causes of accidents and developing innovative preventive measures. With the goal of understanding the intricacies of accidents during loading/unloading and cabin entry/exit, the ongoing analyses will provide valuable insights. Continued preventive efforts are imperative in fostering a safer work environment for truck drivers.

**Figure 4.** OSH hierarchy for implementing preventive measures, illustrating selected examples for the prevention of fall incidents from commercial vehicles

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## Technical measures

### Ascents onto and working on vehicles

Steps with

- sufficiently wide and deep treads
- slip resistant surfaces
- handles in ergonomic positions

No ascending via tires, tanks, wheel hubs, or rims!

Driver's cab and workplaces on superstructures can be accessed and exited without danger!

### Safe access

- On-board ladder climbs
- Work stations more than 2 m above ground:
  - railing at least 1 m high, with knee and foot rails
  - folding rails allowing for set up from the ground
- Work lights for sufficient illumination
- Working areas with slip resistant surfaces
- Wide catwalks

Workplaces on superstructures can be accessed and exited without danger!

No gaps between catwalk elements or structural components!

No tripping hazards from ledges or fastening elements!

Workplaces on superstructures can be used without danger!

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## Organizational measures

### Working with platform lifts

- Secure loads against unintentional movement or falling apart
- Pay attention to the load capacity of the tail lift
- Load the tail lift centrally and between lifting arms
- Do not place loads close to the edge
- Overlap tail lift and loading ramp sufficiently
- Use existing guardrails
- Stay in designated area while lifting and lowering

### Before purchasing:

- Equip vehicle according to risk assessment for the planned activities
- Ensure suitability of the vehicle for the intended use

### Top priority:

- Safe and healthy working conditions

Vehicles are (also) work equipment!

P

## Personal measures

- PPE: Proper footwear
- Regular instructions
- Training

## References

- [1] BG Verkehr. 2019. *Purchasing guide for company vehicles.* (bg-verkehr.de Webcode 20498940).
- [2] BG Verkehr. 2014. *Instruction video: Elevated workplaces.* (bg-verkehr.de Webcode 21147742).
- [3] BG Verkehr. 2022. *Instruction video: Entering and exiting.* (bg-verkehr.de Webcode 21268046).
- [4] DGUV. 2020. *Gute Praxis der Evaluation von Präventionsmaßnahmen in der gesetzlichen Unfallversicherung* (DGUV Information 211-043).



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