

# Making the industry safer - Reducing accidents in FVL

2021/22 incidents & analysis

MAY 2023



**ECG**

The Association  
of European  
Vehicle Logistics

## About the ECG Health & Safety Working Group

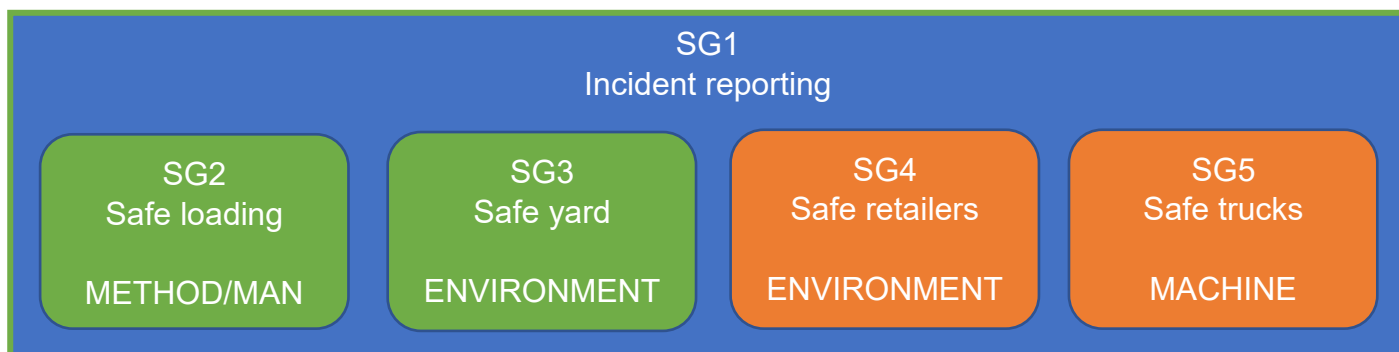
The [ECG Health & Safety Working Group](#) (H&S WG) was established in 2018 with the initial focus on safety in road transport and, particularly, falls from height. The objective of the working group is to bring about a mindset change in the Finished Vehicle Logistics (FVL) industry when it comes to driver safety. It is divided into 5 sub-groups.

The key objective of Sub-Group (SG) 1 within the H&S WG is to gather details of **severe accidents**<sup>1</sup> and **near misses**<sup>2</sup> in truck transportation and identify safety risk trends in the industry. By identifying key trends, the work of SG1 informs and guides the work carried out by the other Sub-Groups.

SG2 is responsible for developing and improving standards for loading and unloading car transporters and produced the [ECG Guidelines - Safe Loading Process](#) (referred to as 'ECG Guidelines' in this report). This is a booklet translated in 13 European languages and can be used by Logistics Service Providers (LSPs) to train drivers. SG3, meanwhile, aims at developing standards for a safe environment in hubs & compounds and produced the [ECG Guidelines - Safe Yard Design](#).

SG4 is looking at delivery at retailers to ensure driver safety in this environment. As a first step, SG4 produced a checklist for safe delivery at retailers. This will be reinforced by developing best practices in this area. Lastly, SG5 is set-up to risk assess and identify safety features of car transporters to improve equipment used in Finished Vehicle Logistics (FVL). The activities of SG4 and 5 are currently on hold at the time of writing.

### Health & Safety Working Group Organisation



<sup>1</sup> Accidents are defined as “an occurrence arising out of, or in the course of, work that *does* result in an injury”. Severe accidents are categorized as:

- Fatal (Death of a person).
- Unrecoverable (Amputation, Head trauma with unrecoverable consequences, Permanent damage/loss of eyesight (1 or 2), Serious burns causing permanent scarring).
- Recoverable but Serious (Fractures, Any crush injury to the torso causing damage to internal organs, Non-permanent serious burns including scalding, Any admittance to hospital for more than 24 hours, Cuts if an internal organ or tendon is hurt or in case of hemorrhage, Any loss of consciousness caused by head injury or asphyxia, Electric shock resulting in an injury).

<sup>2</sup> Near misses are defined as “an occurrence arising out of, or in the course of, work that *could* result in an injury”.

## Executive summary

In 2018, the H&S WG created an incident reporting website for all truck operators active in FVL. The aim of the website is to create a database of incidents which can be analysed and used to share insightful information to increase the safety of drivers and contribute to a safer industry in general. The incident reporting activity started in 2019 and, based on the data received, annual reports for 2019 and 2020 have been previously published.

Previously, the website was hosted in Ukraine and it stopped functioning shortly after March 2021 when the war in Ukraine started. ECG therefore decided to develop a new website and this was launched in October 2022. Since then, truck operators have had the possibility to once again report on incidents. Thanks to this input ECG is now able to publish an analysis of severe incidents and near misses for the years 2021/22.

A total of 114 incidents for 2021 and 61 incidents for 2022 were uploaded to the database. Compared to the 2020 report where 136 incidents were analysed, the number of incidents uploaded for 2021 and 2022 is lower which we attribute to the disruption with the website.

The 2021/22 analysis show similar trends to the 2019 and 2020 reports. One Unrecoverable incident (amputation of a finger) was reported for 2021. Slips & Trips (S&Ts) still continue to constitute the majority of the incidents reported. In this analysis one additional category was added: Transport incidents and incidents during delivery at retailers.

As in the 2019 and 2020 reports, the analysis of 2021/22 clearly demonstrates that many incidents could be avoided by following the [ECG Guidelines – Safe Loading Process](#). The Guidelines are designed to prevent and mitigate the risk of accidents during loading/unloading. It is important that all truck operators fully adopt the ECG Guidelines – Safe Loading Process and train and audit their drivers in line with this.

Despite the lower number of incidents reported, this analysis shows that certain types of incidents *still* persist during the loading/unloading operations. Only by sharing, the industry can collectively learn from experience and improve drivers' safety. It is essential that all operators who are reporting on incidents continue to do so. This allows the sector to proactively tackle some of the risks existing.

Every input is important to have accurate and informative analysis and recommendations. Therefore, we urge everyone who still don't use our database to start doing so.

Please encourage your colleagues to support this project via the website:

[reports.ecgassociation.eu](https://reports.ecgassociation.eu)

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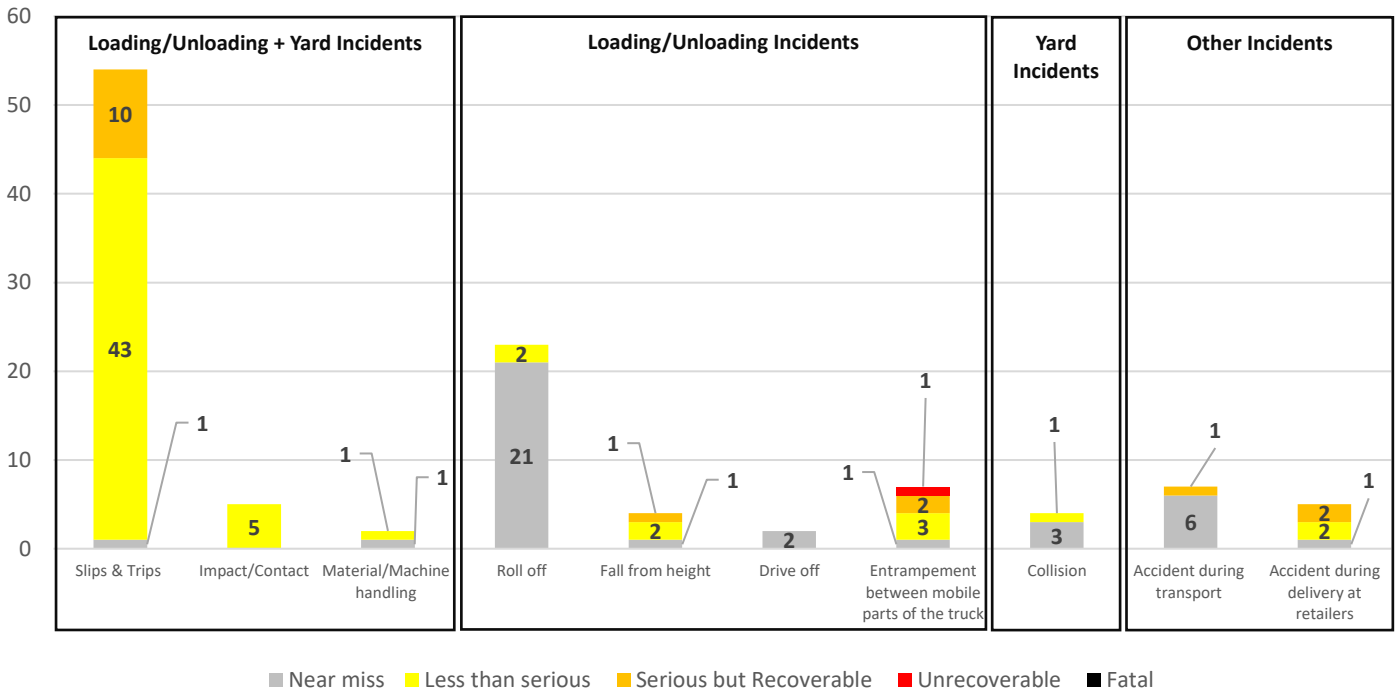
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<b>List of Abbreviations</b>	
<b>3PC</b>	3 Points of Contact
<b>EPB</b>	Electronic Parking Brake
<b>FVL</b>	Finished Vehicle Logistics
<b>H&amp;S WG</b>	Health & Safety Working Group
<b>LSP</b>	Logistic Service Provider
<b>OEM</b>	Original Equipment Manufacturer
<b>S&amp;Ts</b>	Slips and Trips
<b>SG</b>	Sub-Group

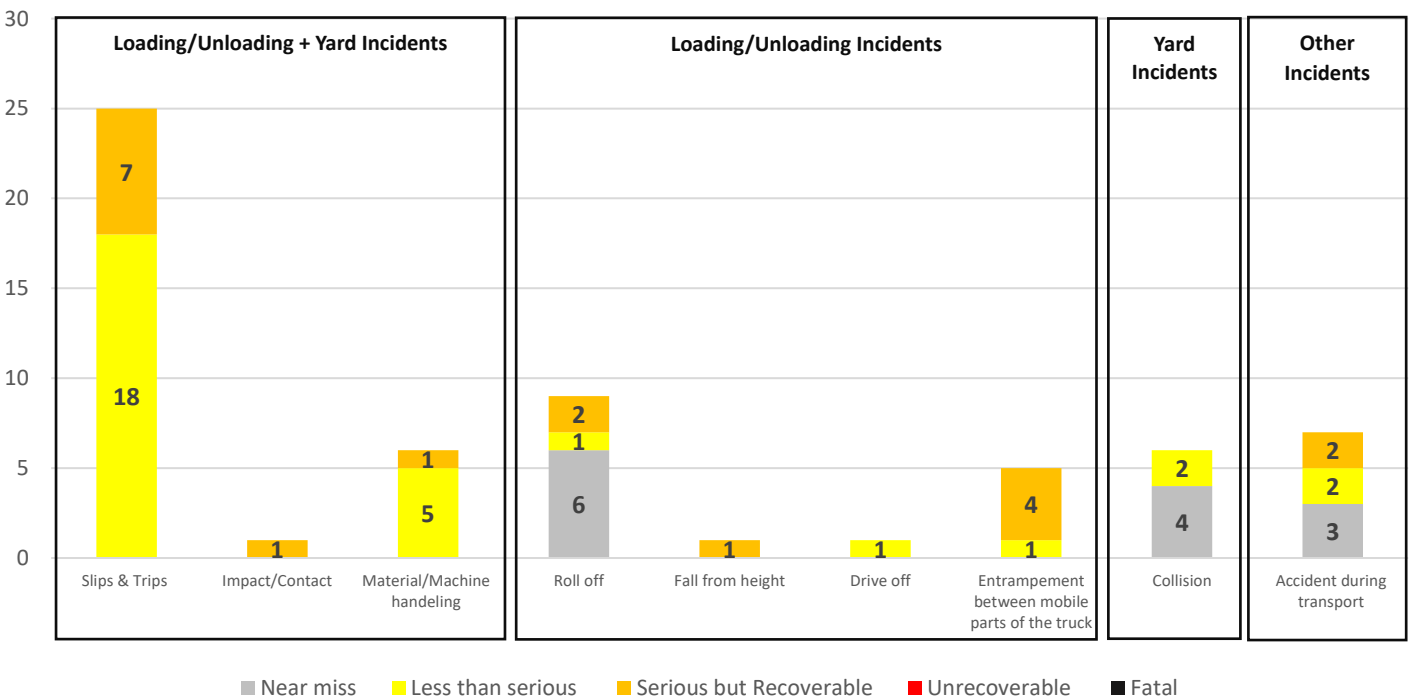
# 1 Overview

114 truck loading/unloading incidents have been analysed for 2021 and 61 for 2022, as shown respectively in Fig. 1 and Fig. 2 below.

**Fig. 1 - Breakdown of incidents for 2021**



**Fig.2 - Breakdown of incidents for 2022**



The most common incidents reported for 2021 and 2022 are Slips & Trips (S&Ts). S&Ts occurred both during loading/unloading and in yard operations.

- Out of 54 S&Ts in 2021, 19% of accidents resulted in Serious but Recoverable injuries, whilst 80% of injuries were Less than Serious.
- For 2022 a slightly higher number of incidents resulted in Serious but Recoverable injuries (28%), whilst most of the incidents were Less than Serious (72%).

Like in the 2019 and 2020 report, S&Ts is the most common category of incidents: 54 incidents were reported for 2021 and 25 incidents for 2022 in this category.

Additional categories of incidents during loading/unloading and yard operations include the following categories:

- 6 incidents in total for 2021 and 2022 are in the Impact/Contact category: a driver hit a body part against a fixed structure. 5 incidents resulted in Less than Serious and 1 incident in Recoverable but serious.
- 8 incidents in total for 2021 and 2022 are in the Material/Machine Handling category: injuries were sustained during handling of materials (e.g. chocks/lashes) or machines (e.g. truck decks). 6 of the incidents reported were Less than Serious, whilst 1 of them was Recoverable but Serious.

As in the previous reports from 2019 and 2020, roll-offs are still the second most common incident overall for both 2021 and 2022 where the majority of incidents (~85%) resulted in Near Misses.

Falls from height and entrapment between mobile parts of the truck are incidents that proportionally led to more severe incidents in 2021 and 2022. Close to 50% of incidents for both categories led to Serious but Recoverable injuries. In the Entrapment between mobile parts of the truck category just one incident was reported as Unrecoverable: a truck driver manipulating the loading ramps of the upper deck, crushed his right hand and lost one finger.

In the 2020 report drive-off incidents mainly caused Serious but Recoverable injuries (66%). In 2021 and 2022 the severity of injuries caused by drive-offs decreased: 33% of the incidents were reported as Less than Serious and 67% were Near misses.

10 collisions were reported for 2021 and 2022 of which 6 were car-car, 1 car-man, 1 car-truck and 2 car-object collisions. 7 out of 10 incidents resulted in Near-misses, whilst 3 incidents resulted in Less than Serious injuries. As highlighted both in the 2019 and 2020 reports, in order to avoid further incidents, there is a need to segregate by either time and/or space movements of yard operators and truck drivers in yards to minimize car-man/car-car collisions.

Lastly, in the category of Other, incidents that happened during delivery at retailers were reported. In 2021, 7 transport incidents were reported and 5 incidents occurred during delivery at retailers. During delivery at retailers, 2 incidents happened due to inadequate conditions: truck drivers had to unload on a road with traffic. For 2022, 7 incidents were noted during transport, whilst no incident was recorded during the delivery at retailers.

The delivery at retailer incidents will be reported to the ECG's H&S WG who will look into further recommendations.

## 1.1 Comparison to 2019 and 2020 Incidents

Fig. 3a below presents a comparison between the ratios of incidents reported in 2019, 2020, 2021 and 2022.

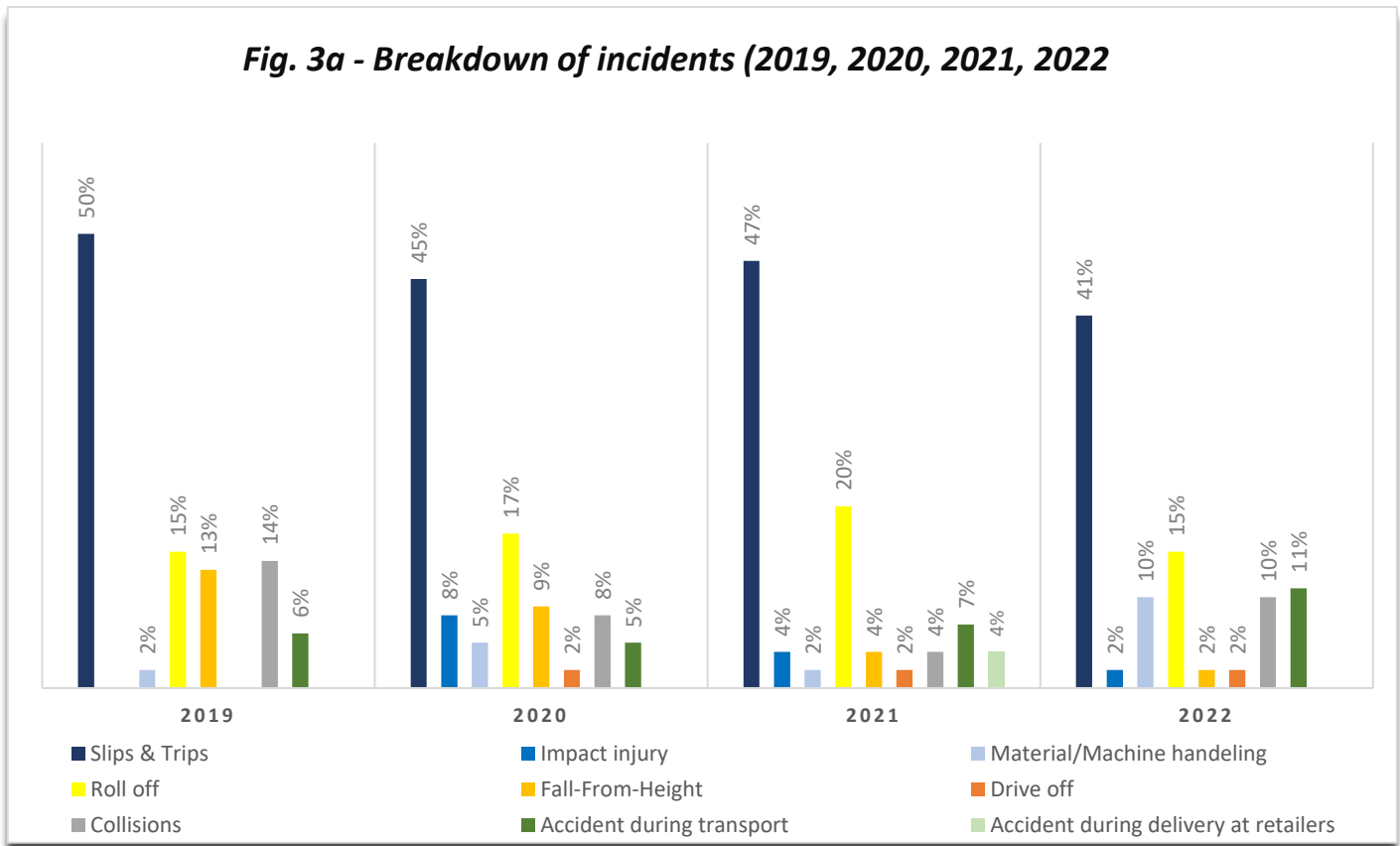


Fig. 3a shows the comparison between ratios and key trends between 2019, 2020, 2021 and 2022 reported incident data.

- As in 2019 and 2020, Slips & Trips are still constituting the majority of the reported incidents (~40-50%).
- The second most common category of incidents are roll-offs (~15-20%).
- Compared to the previous two reports, 2021 and 2022 fall from height incidents are slightly reduced (2-4% comparing to 9-13%).
- An increase of 2-5% can be noticed for those incidents happening during transport and delivery at retailers in 2021 and 2022.
- Slight decrease of collisions can be noted in 2021 (4% compared to 8-14%).
- There were no significant changes for drive offs (2%).



It's also noteworthy to compare the proportions of severe accidents reported in 2019, 2020, 2021 and 2022 as shown in Fig. 3b below.

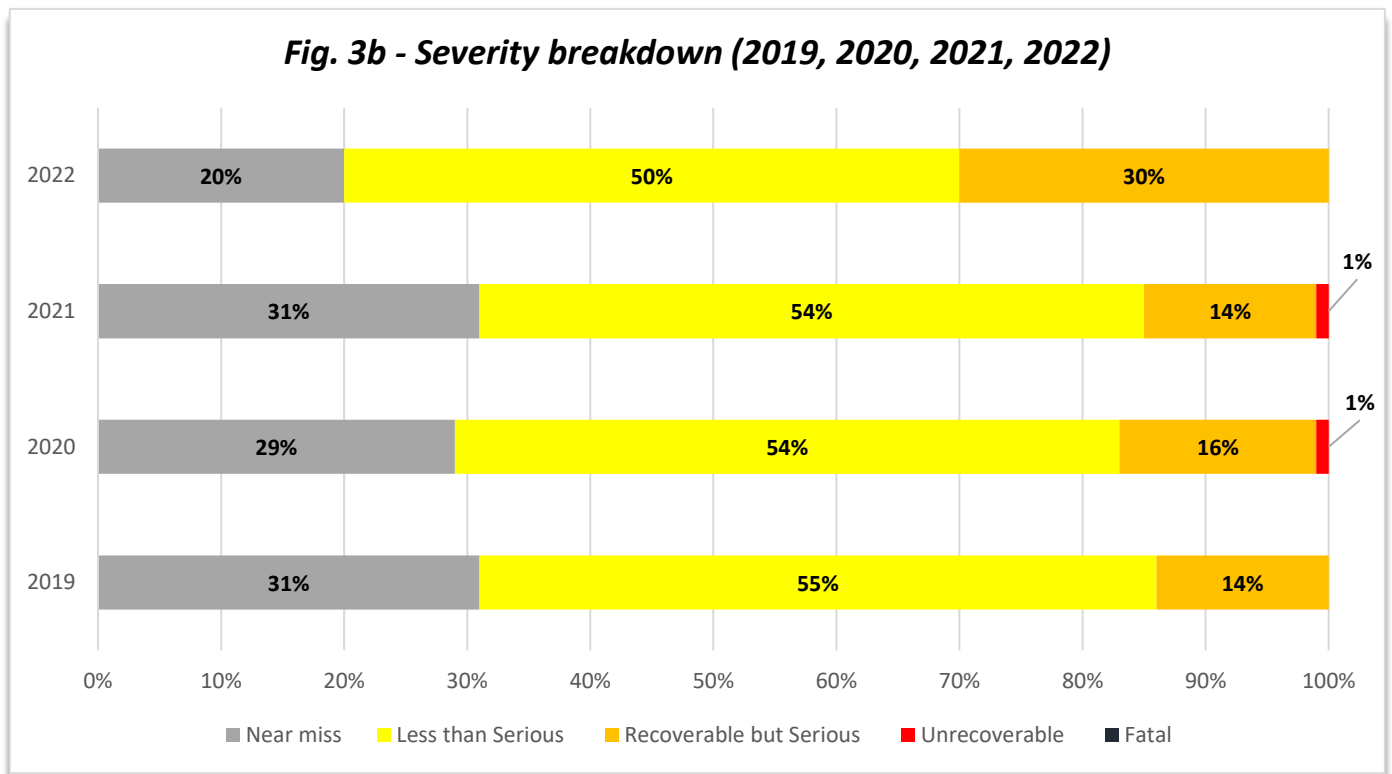


Fig 3b clearly shows a similar breakdown in severity of reported accidents compared to the previous years. One thing can be noted here: even though fewer incidents were reported for 2022 a larger proportion of those were more serious than the ones reported in the years before. The proportion of Serious but Recoverable incidents was ~15% higher in 2022. As the website was not fully functional and less incidents were reported for 2022, it is hard to draw a conclusion on this. Amputation of a finger was reported as an Unrecoverable incident for 2021.

It is vital for the industry to continue reporting near misses, but also severe, unrecoverable and fatal incidents as well, in order to truly understand incidents in road transport during loading and unloading operations and avoid future reoccurrences.

## 2 Breakdown of high-risk incidents

The following section provides an in-depth breakdown of the different types of high-risk and/or incidents reported in 2021 and 2022. For the purposes of the report, high-risk incidents are defined as those which occur very frequently and/or can cause potentially serious injuries when they do occur.

## 2.1 Slips & Trips (S&Ts)

Slips & Trips cover a broad range of incidents linked to walking, standing-on and accessing decks.

Key Highlights	
2021	2022
54 S&Ts reported: <ul style="list-style-type: none"> <li>➤ 80% Less than Serious</li> <li>➤ 18% Recoverable but Serious</li> <li>➤ 2% Near miss</li> </ul>	25 S&Ts reported: <ul style="list-style-type: none"> <li>➤ 72% Less than Serious</li> <li>➤ 28% Recoverable but Serious</li> </ul>
20% of incidents reported in 2021 and 28% reported in 2022 are linked to poor deck preparation (i.e. open drop-holes) and failure to comply with deck preparation as illustrated in the <a href="#">ECG Guidelines – Safe Loading process</a> .	
13% incidents in 2021 are caused by poor environment in the yard (uneven or icy surfaces).	

Most S&Ts result in some form of injury. The severity of injuries arising from S&Ts are Less than Serious and in some cases Serious but Recoverable. Similar trends were remarked in 2019 and 2020 reports.

S&Ts are particularly common because they can occur anywhere on the truck, and even while working or walking in the yard as shown below. A large proportion of these incidents occur on the truck itself due the uneven surfaces, gaps, holes and loading materials, but environmental conditions can also contribute to such events occurring in the yard.

Trends related to S&Ts have been consistent since 2019, when the incident reporting activity started. It highlights that the [ECG Guidelines - Safe Loading Process](#) need to be implemented with particular attention to deck preparation, walking, standing and accessing decks. The risks leading to S&Ts can be mitigated. It is crucial that LSPs and, in particular, driver trainers raise awareness and put higher focus on S&Ts and consequences during training to prevent this type of incidents in the future.

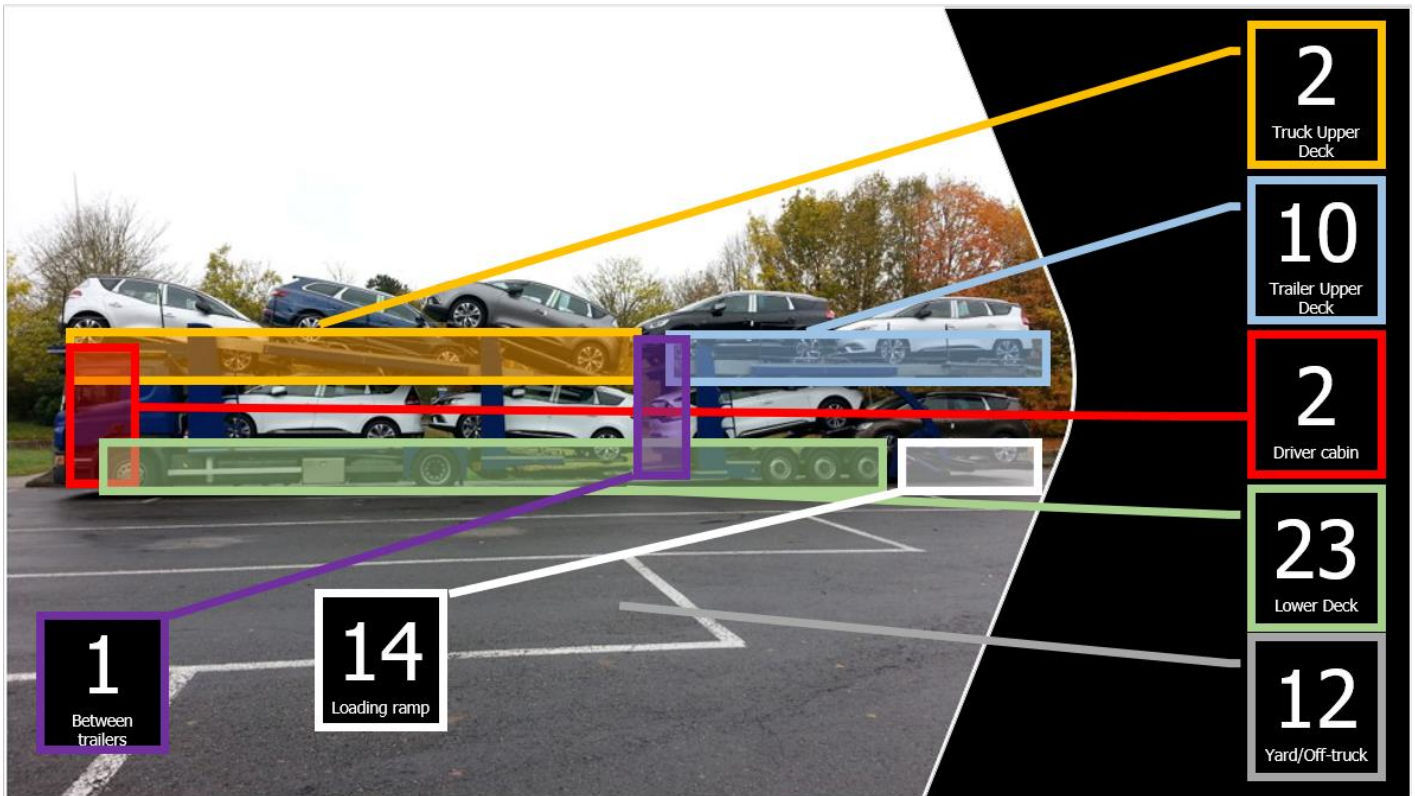


Fig. 4a – Areas where S&Ts occurred in 2021

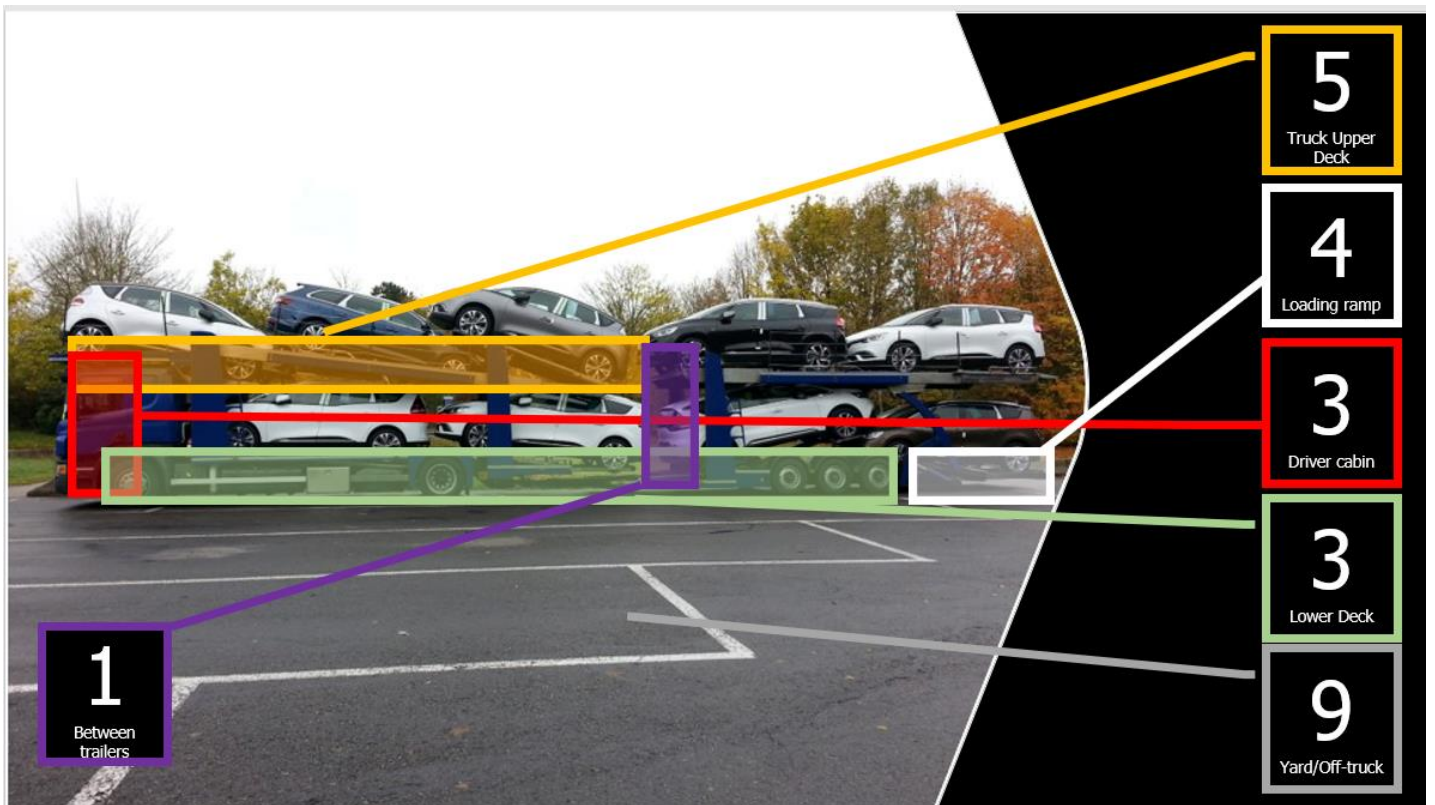
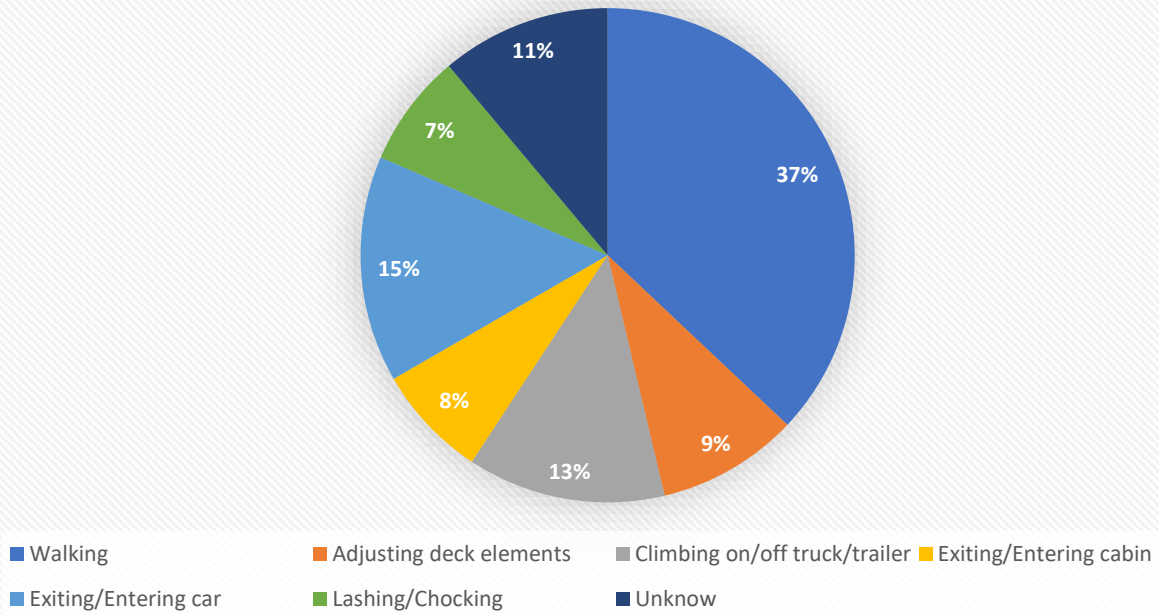


Fig. 4b – Areas where S&Ts occurred in 2022

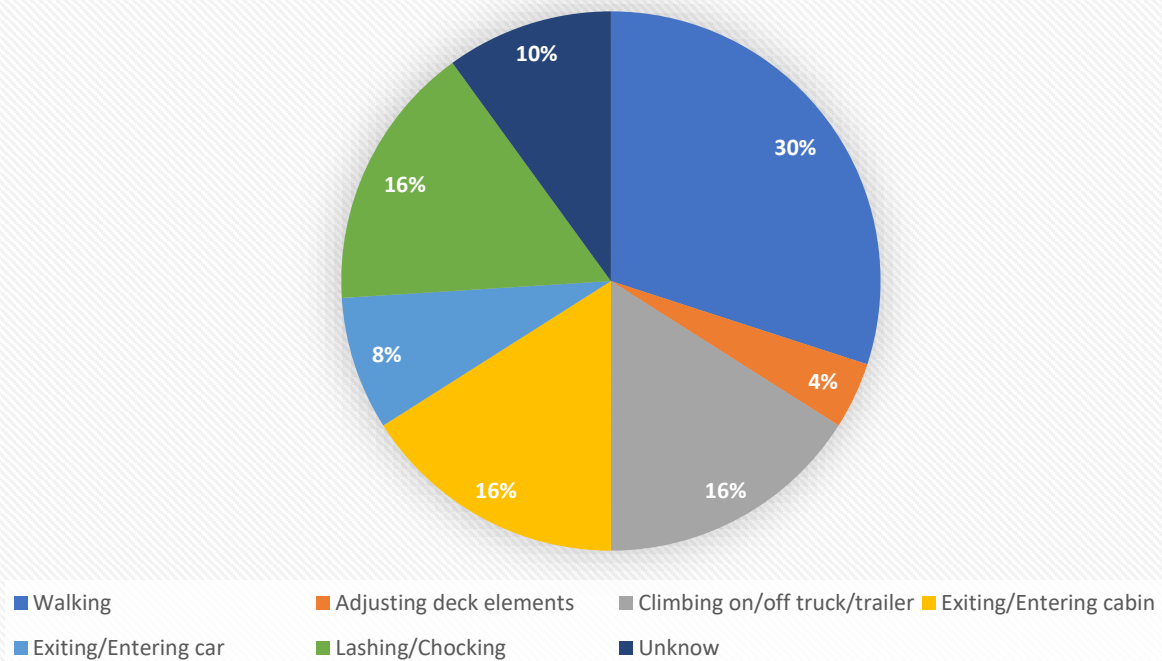
### 2.1.1 What causes S&Ts?

Fig. 5a provides an overview on actions performed when S&Ts occurred:

**Fig. 5a - The causal factors leading to S&Ts in 2021**



**Fig. 5b - The causal factors leading to S&Ts in 2022**



For both 2021 and 2022 a large number of S&Ts incidents occurred when drivers were walking. Drivers tripping in holes and/or walking over gaps on trailer decks are common, however most incidents in this category occur due to uneven and/or slippery surfaces in the yard.

Other factors leading to S&Ts are:

- Exiting/Entering car without 3PC led to 15% of S&Ts in 2021 and 8% in 2022.
- Unsafe lashing/chocking caused 7% of S&Ts in 2021 and 16% in 2022.
- Climbing on/off trailer/truck unsafely led to 13% of S&Ts in 2021 and 16% in 2022.
- Exiting/Entering cabin unsafely without 3PC and without checking the environment caused 8% of S&Ts in 2021 and 16% in 2022.

### **2.1.2 Why are S&Ts caused?**

As discussed in both 2019 and 2020 report, following reasons lead to S&Ts:

#### **1. Lack of awareness**

In the first case, the contributory factor is inadequate awareness about the truck/trailer design. For instance, if drivers are not aware of how to correctly adjust deck elements, or which areas of trucks to safely walk on, this creates an increased risk of incidents while working.

#### **2. Environment**

Some S&Ts are recorded because of the unsafe environment in compounds due to slippery surfaces, uneven roads etc. and environmental conditions (i.e. icy and slippery walking areas).

#### **3. Lack of concentration/distraction**

The third point refers to the lack of driver concentration/attention. This may influence even highly trained drivers who are aware of the risks. If, for example, drivers are under time pressure or otherwise distracted, they may resort to moving unsafely around the truck – e.g. jumping from decks, not raising decks fully. Over time, if not corrected, this may also become a habit, eventually leading to serious consequences.

- Companies employing drivers should tailor their training to increase awareness about risks of S&Ts.
- Driver trainers should emphasize the risks of S&Ts in the yards to drivers during trainings.

As noted in the previous reports, most of the incidents that occurred can be linked to the lack of compliance with ECG Guidelines - Safe Loading Process which provides key points on how to minimize the risk of incidents.

## 2.2 Roll-offs

A roll-off incident is one where a car without a driver rolls off an inclined plane e.g. from an angled truck deck, or from parking on a slope, due to improper parking or securing (chocking/lashing).

Key Highlights	
2021	2022
23 roll-offs reported: <ul style="list-style-type: none"> <li>➤ 21 Near-misses</li> <li>➤ 2 Less than Serious</li> </ul>	9 roll-offs reported: <ul style="list-style-type: none"> <li>➤ 6 Near-misses</li> <li>➤ 2 Recoverable but Serious</li> <li>➤ 1 Less than Serious</li> </ul>
<b>38%</b> of roll-offs involved electronic/manual parking brake.	<b>66%</b> of roll-offs involved electronic/manual parking brake.
<b>100%</b> roll-offs caused by Lack of 4 Step Parking & Confirmation - non-compliant with the <b>ECG Guidelines - Safe Loading Process</b> .	

Most of the roll-offs reported for both 2021 and 2022 resulted in near misses, while a smaller percentage of incidents led to a Less than Serious or Serious but Recoverable injuries (for 2021 ~10% and 2022 ~30%).

Roll-offs mostly result in car-car/truck/object collisions. Some result in car-man collisions. In 2022 one car-man collision resulted in a Serious but Recoverable incident. This is because, as cars roll backwards off the truck, they move through an area where other drivers may be working or driving, or other cars are parked ready to be picked up.

In one reported incident, the driver was loading a vehicle on the truck's lower deck. While exiting the car, the door of the vehicle stayed open, and the vehicle started to roll off. The driver tried to stop the car, whilst his face got trapped between the vehicle and the truck causing fractures.

### 2.2.1 What causes roll-offs?

Following the ECG Guidelines - Safe Loading Process, Fig. 6 presents recommendations for securing a vehicle on the deck after loading.

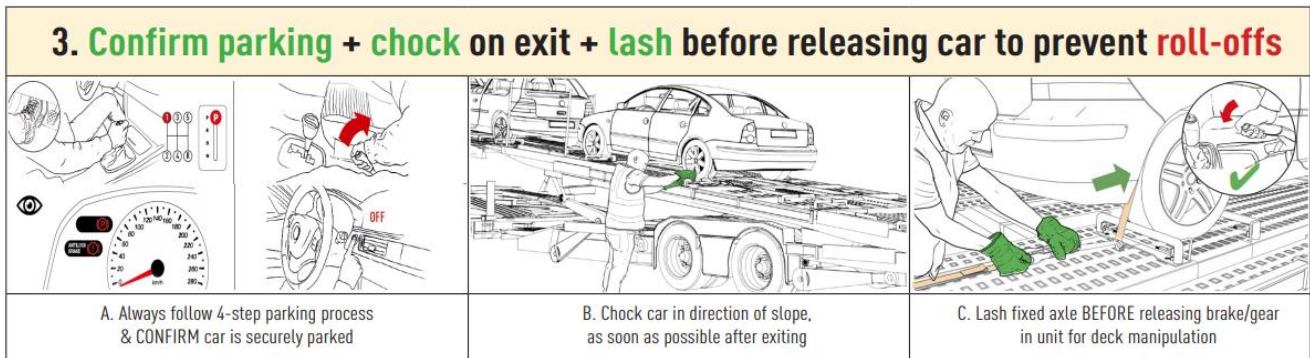


Fig. 6 – Loading Safety Fundamentals to prevent roll-offs

Roll-offs primarily occur due to errors at three different stages as also discussed in the 2019 and 2020 report:

1. Loading car and exiting without applying parking brake and/or engaging gear in “Park” mode: this error leads to a car immediately rolling off upon exiting with a high risk of car-man collision on angled decks. In 2021 and 2022 there were 2 car-man collisions reported (see Fig. 6 – picture A).

In one reported incident, the driver engaged 1<sup>st</sup> gear while loading the vehicle on a truck upper deck causing a vehicle to roll-off. The driver squeezed against the car whilst his leg came between the door of the vehicle and a safety pole on the truck.

2. Forgetting to chock AND lash a fixed axle before releasing the car for deck manipulation: this error leads to cars rolling-off during deck manipulation as the wheels pop-out of drop-holes, or even go over chocks (see Fig. 6 – picture C).
3. Forgetting to get back in the car to re-apply the parking brake and/or engage gear in “Park” mode: this error can lead to roll-offs during unloading.

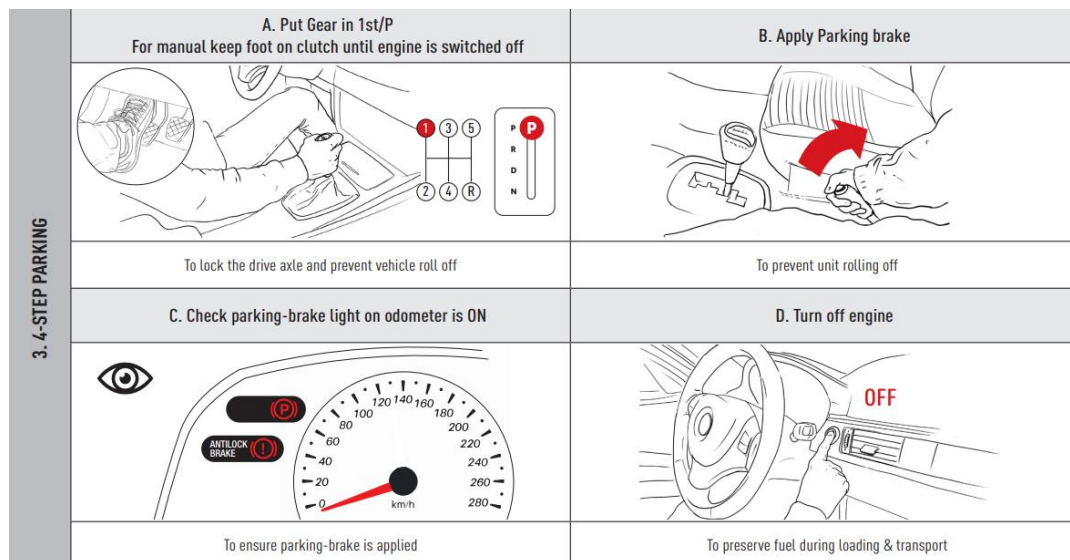


Fig. 7 – 4-Step Parking Process

- Out of 23 incidents in 2021, 12 cases were noted during loading, 8 cases during unloading and 2 cases during the preparation of trailer upper decks.
- Of 9 incidents reported in 2022, 5 cases were reported during unloading, 2 during loading, 1 during the preparation of trailer upper deck and 1 in yard (after drivers parked their cars post-unloading).

Roll-offs can occur at any stage when loading a vehicle on a truck. Therefore, as noted in both 2019 and 2020 reports, it is of the utmost importance that drivers properly secure cars as recommended in ECG Guidelines (see Fig. 6):

- **Applying 4-step parking process** (as shown in the Fig. 7), using parking brake and gear
- **Applying chocks and lashes** during both the loading and unloading processes and especially during the deck manipulation.

### 2.2.2 Why do roll-offs occur?

In the 2019 and 2020 reports, the position of the car and type of parking brake emerged as two possible explanations why roll-offs occur. This can be noted also in the analysis for 2021 and 2022.

1. In 2019, 10 of the 13 (77%) cars involved in roll-offs were Electronic Parking Brake (EPB) type cars. This suggested that the complexity of EPBs (and drivers being unaware/complacent with such systems) could be a contributory factor towards roll-offs.

Notable differences can be spotted between 2021 and 2022 incidents. While in 2021 only 9 cases (out of 23) reported included EPB, in 2022 7 cases (out of 9) had EPB. It is hard to draw a conclusion as to whether the complexity of EPBs is a significant factor that led to roll-offs, but we strongly suspect that it is.



- It is important that all LSPs and driver trainers enhance familiarisation of their truck drivers with the specific brand and/or models of vehicles in order to minimize this type of incidents.
2. Close to 77% of incidents reported in 2019 and 65% in 2020 suggested that complexity of loading cars on trailer upper decks can be a contributory factor in why roll-offs occur. Incidents reported for 2021 show a similar trend: 60% of roll-offs occurred from the same position.

For 2022, 33% of incidents reported occurred from trailer/truck upper decks or from the loading ramp whilst 22% (2 cases) happened from the truck lower deck.

These cases will be studied further within H&S WG in order to investigate all factors leading to roll-offs.

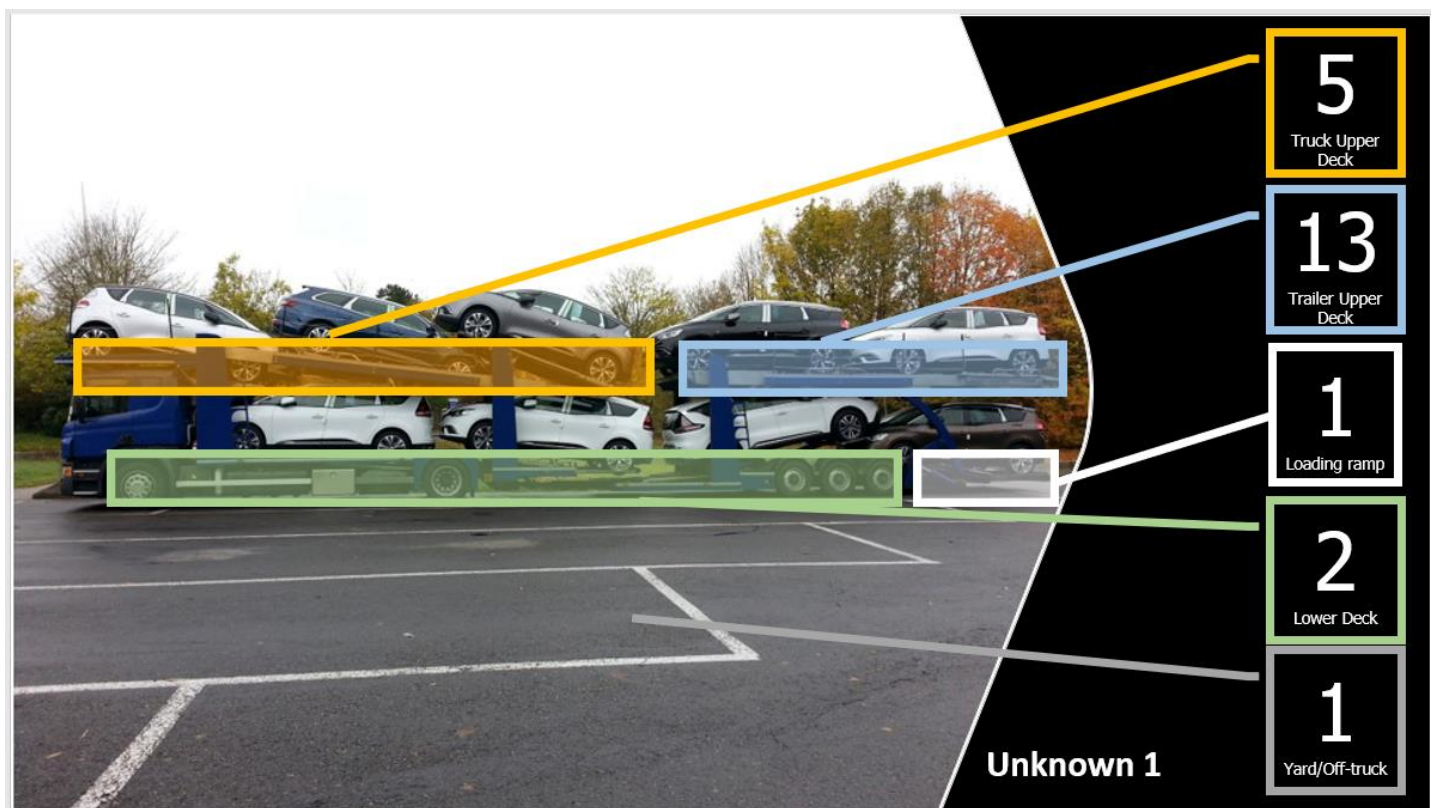


Fig. 8a – Areas where roll-offs occurred in 2021



Fig. 8b – Areas where roll-offs occurred in 2022

### 2.3 Falls from height

During loading and unloading operations a high rate of injuries and fatalities are happening due to falls from height. Falls from height occur because some operations are performed from the trailer/truck upper deck where truck drivers work with no external protection. In some cases this type of incident can occur from the side ladders or loading ramp (see Fig. 8a and 8b). The risk of falls from height can be linked to: not maintaining 3PC, jumping, leaning on safety rails.

Key Highlights	
2021	2022
<p>4 Falls from Height reported:</p> <ul style="list-style-type: none"> <li>➤ 2 Less than Serious</li> <li>➤ 1 Serious but Recoverable</li> </ul>	<p>1 Falls from Height reported:</p> <ul style="list-style-type: none"> <li>➤ Serious but Recoverable</li> </ul>
<ul style="list-style-type: none"> <li>➤ 2 cases occurred during lashing/chocking</li> <li>➤ 2 cases are related to structural failure (i.e. safety rail)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Falls from Height occurred as the vehicle started to roll off due to improper securing on deck</li> </ul>
<ul style="list-style-type: none"> <li>➤ 2 cases happened on the trailer upper deck: 1 on truck upper deck and 1 on loading ramp (see Fig. 7a)</li> </ul>	<ul style="list-style-type: none"> <li>➤ The incident happened from the trailer upper deck (see Fig. 7b)</li> </ul>



Fig. 9a – Areas where falls from height occur in 2021



Fig. 9b – Areas where falls from height occur in 2022

### 2.3.1 What causes falls from height?

Analysing incidents for 2021 and 2022 following factors contributed to falls-from-height:

- Unsafe driver movement (lack of 3PC while walking or entering/exiting car) is noted in 1 incident in 2022.
- Unsafe lashing/chocking was noted in 2 cases in 2021.
- Structural failure was reported in 2 cases in 2021 where a safety rail failed as a driver leaned on it. As safety rails get rusty over time and therefore weaker, it is important that LSPs do regular audits and maintain them to prevent further incidents. Additionally, LSPs and driver trainers should raise awareness that safety rails are not designed to support the weight of the driver.

## 2.4 Drive-offs

Drive-off incidents are those where a driver loading a car drives-off from the truck. This can be caused by either improper control of the acceleration/braking of the car, or by mis-steering the car off the deck.

Key Highlights	
2021	2022
2 drive-offs reported: ➤ 2 Near-misses	1 drive-offs reported: ➤ Near-miss

In both 2021 and 2022 analysis, incidents involved a passenger car and all of them occurred from the **trailer/truck upper deck**.

Information on the handbrake was not provided for these types of incidents. Therefore, no firm conclusion can be drawn as to whether the type of handbrake influenced drive-offs.

## 2.5 Collisions

Collision incidents involve one or more moving vehicles colliding with other vehicles, individuals or fixed objects. Depending on the vehicle and speed involved, the consequences of collisions can vary from near misses to much more serious incidents.

Key Highlights	
2021	2022
4 collisions reported: ➤ 3 Near-misses ➤ 1 Less than Serious	6 collisions reported: ➤ 4 Near-misses ➤ 2 Less than Serious
3 collisions happened during maneuvering a car in yard and 1 during arrival on site.	3 collisions happened during unloading a car from the truck and 3 incidents happened during maneuvering a car in yard.

For both 2021 and 2022 incidents, collisions resulted either in Near Misses or Less than Serious injuries.

In 2021, 2 collisions reported were car-car collision, 1 car-man and 1 car-object, whilst in 2022 there were 4 car-car collisions, 1 car-truck and 1 car-object reported. From the incidents observed, there is no specific factor we can highlight at this point that contributed to them. However, 3 cases for both 2021 and 2022 involved accidents due to low visibility.

## 2.6 Transport incidents and delivery at retailer

Transport incidents and incidents that occurred during delivery at retailers were reported as a new category in the 2021/22 analysis. The focus of this activity is loading and unloading trucks in yards. However, it is important to make sure that loading and unloading of vehicles is safe at all times and also in distribution at retailers/dealership. More incidents of this type were reported for 2021 and 2022 compared to the previous years.

Key Highlights	
2021	2022
7 accidents during transport reported: <ul style="list-style-type: none"> <li>➤ 6 Near-misses</li> <li>➤ 1 Less than Serious</li> </ul>	7 accidents during transport reported: <ul style="list-style-type: none"> <li>➤ 3 Near-misses</li> <li>➤ 2 Less than Serious</li> <li>➤ 2 Serious but Recoverable</li> </ul>
5 incidents happened during delivery at retailers: <ul style="list-style-type: none"> <li>➤ 2 Less than Serious</li> <li>➤ 2 Serious but Recoverable</li> <li>➤ 1 Near-miss</li> </ul>	No incident was reported during delivery at retailers.

Comparing to the 2019 and 2020 reports, there was a slight increase of incidents during transport (7-10% for 2021/22 vs 5-6% in 2019 and 2020).

2 out of 5 incidents noted during delivery at retailers happened due to inadequate conditions where truck drivers had to unload on a public road in the traffic outside of the delivery point. One case resulted in Serious but Recoverable injuries.

It is of the utmost importance to develop minimum standards for delivery at retailers in order to ensure safety for the truck drivers during unloading operations. H&S WG will further look into these incidents and work towards developing good practices and recommendations.

## 3 Summary points for the industry

In this section we provide a set of recommendations for different stakeholders in FVL industry, as well some brief concluding remarks.

### 3.1 Key recommendations

#### 3.1.1 Method/man

Following the 2019 and 2020 reports, this analysis for 2021/22 again shows that some incidents occurred, such as S&Ts, Roll-offs and Falls from Height, because the **ECG Guidelines – Safe Loading Process** were not followed. It is essential that all LSPs adopt the guidelines to train and audit their drivers if we are to reduce the number of the incidents. Additionally, it is important that LSPs raise awareness with drivers on the causes of incidents and share these main causes with drivers during training.

The following fundamentals are highlighted in in the Guidelines which help in preventing incidents:

#### Slips & Trips

- Use 3PC when moving on upper deck
- Preparing decks correctly to avoid walking near holes, chocks or lashes
- Identify designated safe areas on the truck when walking
- No running/jumping or walking backwards

#### Roll-off (see Fig. 6)

- Always follow 4-step parking process (see Fig. 7)
- Always lash a fixed axle before deck manipulation (see Fig. 6 – picture C)
- Train drivers on specific vehicles brands/models

#### Fall from Height

- Visually confirm that safety rails are present and damage-free
- Lower deck as much as possible when loading top decks; Work from the ground up
- Be aware of the environment in order to avoid missteps and stumbling

#### 3.1.2 Machine

In order to minimize incidents such as S&Ts, Roll-offs and Fall from Height, LSPs and OEMs should work together with trailer manufacturers towards finding breakthrough solutions for safer design of car transporters. Two incidents in this report are directly linked to the safety

poles failure. Therefore, it is important that LSPs perform regular checks and maintenance of the safety poles (i.e. perform visual inspection and stress tests) in order to avoid falls from height or any other incident that may occur.

During the training process, each driver should be acquainted with the trailer structures and its specificities. The same should be done with experienced drivers during refresher training sessions.

### 3.1.3 Environment

A significant number of incidents reported were collisions that happened during loading/unloading operations in a yard.

[ECG Guidelines – Safe Yard Design](#) gives key recommendations on how to ensure loading areas can be laid out in order to minimize the risk of yard incidents:

- Loading areas should be adequately spaced and correctly marked.
- Loading areas should be regularly cleaned to avoid S&Ts in the yard.

Additionally, it was noted that certain incidents during delivery at retailers happened due to the inadequate conditions for unloading. It is important that the industry works towards common minimum standards for safe delivery in order to minimize/limit the risk of incidents for drivers.

## 3.2 Concluding remarks

The analysis of 2021 and 2022 incidents shows similar trends to those found in the reports of 2019 and 2020. Therefore, it is important to highlight the complexity of loading and unloading operations and potential safety risks to truck drivers. By combining knowledge from different LSPs, OEMs and trailer manufacturers we can make the sector safer by identifying common factors which lead to accidents.

In order to gain an in-depth picture and minimize incidents happening in the FVL industry, it is of the utmost importance that companies continue to report on incidents – both **severe accidents** and **near misses**. Only by sharing we can improve current standards and provide breakthrough solutions for safer and more efficient operations.

Some incidents in this analysis highlighted non-compliance with the **ECG Guidelines – Safe Loading Process**. These Guidelines provide loading safety fundamentals which can directly help to mitigate risks of loading/unloading accidents. We therefore urge all operators to **fully adopt** the Guidelines and use them as a key points during training, auditing and supervision of drivers.