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Summary

This feasibility study was financed by SAFER's Idea Exploration Programme and carried out in collaboration between Scania CV and Guidance to Zero. The overall aim was to increase knowledge and understanding of fleet managers* and truck drivers' awareness, acceptance and use of active safety systems in heavy vehicles.

Heavy goods transport is overrepresented in serious road accidents, placing significant attention on the sector. European legislation has become increasingly stringent, most recently through the General Safety Regulation Step 2, which came into force in July 2024. However, regulatory compliance alone is not sufficient to achieve a high level of road safety. A range of advanced safety features beyond legal requirements are available and can be specified in vehicles. Safety performance has also gained increased visibility through Euro NCAP's Safer Trucks programme.

While the growing number of safety features is positive, their life-saving potential depends on user understanding, trust and correct usage. This study therefore explores the gap between technological availability and practical adoption.

Road safety is highly valued among both fleet managers and drivers who participated in the study. Almost all respondents believe that road safety will increase in importance over the next 2–3 years.

Knowledge of available systems and their intended function is a prerequisite for effective use. This is relevant not only for drivers — who interact directly with the systems — but also for fleet managers, who specify vehicles and follow up on system usage.

The study identified a significant information gap:

- *Between manufacturers and fleet managers*
- *Between manufacturers/fleet managers and drivers*

Information is often obtained through local sales representatives, particularly for fleet managers. However, information is rarely perceived as proactively provided; instead, it must be requested or is discovered after vehicle delivery. The vehicle handover is considered a crucial opportunity to explain safety features, yet drivers are not always involved directly in this process. As a result, important information may not reach the end user.

Among drivers, "learning by doing" is common. When given time to explore and adapt to systems, acceptance tends to increase. However, patience varies, and some features are not appreciated in all situations.

Participants provided several suggestions for improving information and follow-up. Continuous communication and behavioural follow-up were highlighted as important. "Nudging" was frequently mentioned as an effective method, as one-time information is easily lost in information overload.

* We use fleet managers for different roles connecting to managing the fleet and the drivers.

Regarding specific systems:

- Warning systems for vulnerable road users are generally appreciated, although excessive alerts can create perceived information overload.
- Adaptive cruise control is highly valued, as it supports speed compliance and safe following distances. But it can be improved for instance when coming into a roundabout.
- Lane support systems and Advanced Emergency Braking (AEB) receive mixed reactions. Lane support systems are often considered to place the truck wrongly and not suitable on narrow curvy roads. While AEB is generally appreciated, false activations can occur and may create dangerous situations. Some drivers have learned to anticipate high-risk scenarios for false activation and temporarily deactivate the system.
- Alcohol interlocks (alco-locks) represent an interesting case. While some fleet managers perceive resistance, drivers with experience of the system tend to support it — often suggesting it should be mandatory. Resistance appears more common among those without firsthand experience.

Overall, the study highlights that the effectiveness of safety technology depends not only on technical performance but also on communication, trust, training and structured follow-up. Bridging the information gap between manufacturers, fleet managers and drivers is essential to unlocking the full safety potential of available systems.

1. Background

In January 2025, the SAFER Working group "To identify and improve your organisation's work within Traffic safety" held a workshop with representatives from the industry (mainly representatives from outside of SAFER). The workshop explored what challenges, and research needs different transport-heavy organisations see. One that was brought to the table was the role of safety technology:

- Any companies aren't aware of all the functions of modern trucks and how they can use these tools to their fullest.
- It's a common problem with getting acceptance for certain features, often related to geofencing and speed-control but even seatbelts were brought up as something with an increasingly low acceptance.

The goal of this pre-study is to **map how much knowledge and acceptance** there are when it comes **to usage of safety-supporting technology**.

1.2 Benchmark Analysis

When discussing safety technologies and various ADAS (Advanced Driver Assistance Systems) functions, **there is a significant risk of misunderstanding**. One reason is the inconsistent terminology used across the industry**.** The same or similar functions may have different legal names, brand names and Euro NCAP designations.

For example, European legislation requires trucks to be equipped with a Lane Departure Warning System (LDWS – UN R130). However, manufacturers use different commercial names. Volvo refers to its system as Lane Keeping Support, while MB (Mercedes-Benz) uses Lane Change Assist. In addition, the legally required LDWS — which provides a warning when the vehicle unintentionally leaves its lane — is often confused with more advanced, non-mandatory systems that actively steer the vehicle to keep it within the lane or guide it back. On top of that, Euro NCAP sometimes uses yet another terminology. For example, "LKA" in Euro NCAP is not the same as Scania's LKA, which corresponds to Scania's LDW with Active Steering.

These overlapping names make it **difficult to determine exactly which system drivers have experience with**, particularly since specification levels also vary between vehicles. In addition to terminology differences, the **availability and clarity of information** about safety features **vary considerably** between manufacturers. None is great — for instance, the online vehicle configurators do not clearly specify what safety features are included and what can be ordered.

Volvo stands out for publishing regularly updated fact sheets, as well as providing comprehensive information on its website and in accessible driver handbooks. For other manufacturers, it is **more challenging to obtain a clear overview** of available systems. Euro NCAP serves as another important source of information, as it publishes detailed descriptions of the safety systems included in its testing. These systems must be specified for a vehicle to claim the achieved rating. This is particularly relevant since **many advanced safety features — beyond legal requirements — are optional rather than standard equipment**.

2 Project set up

2.1 Purpose

If information and knowledge about available safety features are not effectively communicated, their full potential cannot be realised. Much research focuses on the development of new safety technologies. However, if these technologies do not reach their intended users — or if they are not properly understood and therefore underutilised — they will not contribute to improved road safety.

This pre-study aims to **identify and analyse the gap between available technology and users' perceived usefulness**. It seeks to increase understanding of why certain features are not used as intended or to their full extent.

The findings will provide valuable insights for the SAFER community, including both those working with technological development and those focusing on road user behaviour.

2.2 Objectives

The objective of this study is to provide a clearer understanding of **how available safety technologies in heavy vehicles are used**, and whether **attitudes differ** between various types of safety systems. A further objective is to identify measures that could increase the adoption and proper use of these technologies.

The primary focus is on **active safety features**, but other important safety systems — such as airbags, seatbelts, and related safety services — are also included in the analysis.

Safety technologies can broadly be categorised along the timeline of a journey:

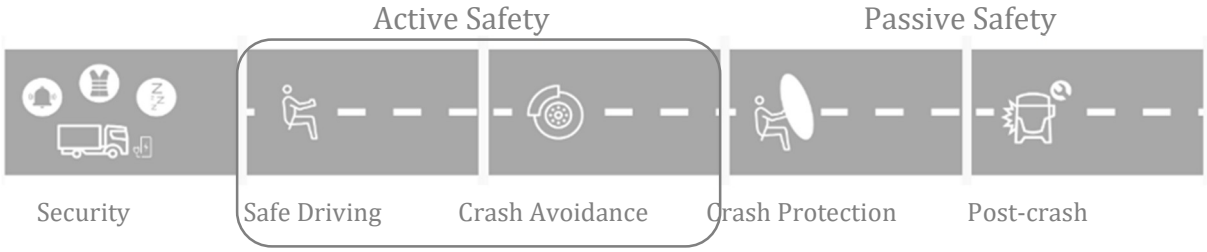

Figure 1. In this study, particular emphasis is placed on active safety, these systems aim to prevent incidents before they occur and is marked on the timeline of a journey above.

2.3 Project period

The project ran from June 2025 to February 2026. The **online questionnaire** was open during October and November. In the beginning of November interviews with drivers were conducted at Sillekrog rastplats (a truck-stop along E4, about 50 minutes south of Stockholm). A **workshop** with the research question was held with drivers and fleet managers* from the international retail chain the 10th of November with participants from eight European countries outside Sweden. **In depth interviews** were held in November and December.

* We use fleet managers for different roles connecting to managing the fleet and the drivers.

2.4 Partners

Scania CV and Guidance to Zero collaborated in this project. The SAFER working groups User behaviour and Organisational traffic safety were invited to give feedback on the work and, particularly, the online questionnaire. All participants from those groups were welcome to contribute to the project however they could and wanted and feedback was received on, for instance, the questionnaire and set up.

3. Method and activities

To collect information on user experience and attitudes towards safety technologies in heavy vehicles, **a mixed-method approach** was applied. This included two online questionnaires, five in-depth interviews involving nine participants, four short driver interviews, and three group interviews.

Respondents

We divided the respondents into **Drivers** and **Fleet Managers**. The focuses for the drivers were to explore their knowledge of and attitudes towards the use of different types of safety systems, including perceived benefits, challenges and practical experiences. For the fleet managers the focus was on examine their knowledge of, and use of, data generated by selected safety systems, as well as how this information is applied in fleet safety management.

Online Questionnaire

Two separate digital questionnaires were developed and distributed via **web links** and **QR codes**. One questionnaire targeted truck driver, and the other targeted fleet managers.

The online questionnaires were distributed to **companies operating large truck fleets**, with a focus on vehicles operating on Swedish roads. The questionnaires were available in both **Swedish and English**.

The questions were developed in collaboration with the working group *Organisational Traffic Safety* and were subsequently presented to the working group *Road User Behaviour* for feedback and input. The final questionnaires are included in Appendix 1.

Participants were given the opportunity to volunteer for follow-up interviews.

Interviews

The primary objective of the interviews was to **obtain a deeper understanding** of how drivers and fleet managers reason about and interpret the online questionnaire findings.

Interviews with drivers were conducted both individually at a truck stop and in a group setting during an international driver training event at Scania.

4. Results and Deliverables

For the safety features we aimed to look at the **attitudes and usage** of them. To be able to use safety technology effectively, the first step is knowing what features are available and how they can improve safety on the road. It is clear that access to **information** is crucial for truck drivers, since they are the ones who ultimately use technology to reduce risk. Therefor the questions also covered access to information.

4.1 Results Drivers

It was difficult receiving answers from drivers without going to them, therefore we went out to a rest stop and used a Scania event for drivers as platforms to collect more answers. In total we got answers to the questions from 19 drivers and had a deeper conversation/interview with 5 of them and group interviews with around 12 drivers.

4.1.1 Background

Most drivers have a **long experience** with 13 years or longer experience from the profession. As the business is heavily male dominated **gender** is a relevant question to include. Out of 19 respondents 3 where female, of which we had a deeper conversation with two of them. The truck drivers are mainly in the long or regional haulage type of operation. None of the respondents work purely in the construction segment.

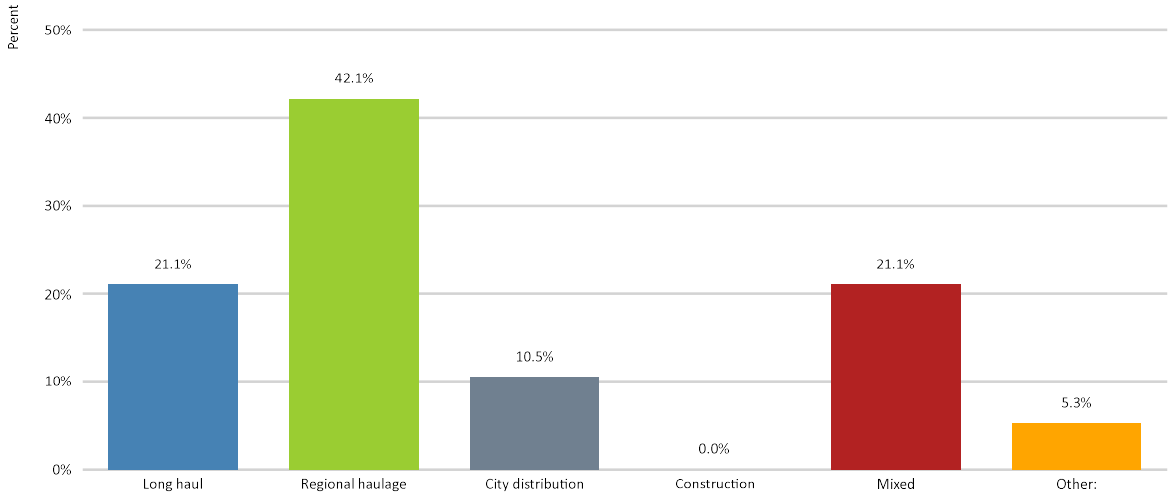

Figure 2. Type of operations – drivers

Different **brands** offer different kinds of safety features and use different packaging and names for them. Some drivers drive different trucks, and some has one that they use for all their work, this may influence the way they answer. In the online questionnaires the drivers could choose more than one brand. The truck drivers surveyed are driving:

	Percent
Scania	68 %
Volvo	58 %
Mercedes-Benz	32 %
MAN	37 %
DAF	11 %
Other:	0 %
N	19

Figure 3. Brand of truck the drivers are using.

More than half of drivers answered that they don't come home each day after work and about half of those drivers sleep in the cab (others are accommodated elsewhere).

4.1.2 Communication and information

Among the drivers the most common source of **information** to keep updated about which features that can be specified and used to improve road safety are **colleagues** followed by **social media** but there are also several that has mentioned that they are self-taught either by experiencing the features, looking in handbook or by the salesmen, often at vehicle handover.

"I got really annoyed by the beeping and warnings in the beginning, but I gave it two weeks to use the functions and to understand them – and now I really appreciate them"

For drivers at larger companies the handover of the vehicle is often managed by the fleet managers, who then transfer the information on to the drivers.

There is a great risk that the colleagues or even the salespersons are not up to date as this is an area with a lot of new features that are being introduced at an increasing speed.

	Percent
Salesperson (from truck manufacturer)	21 %
Workshop staff (truck workshop)	16 %
Colleagues (same company or truck drivers at other companies)	58 %
Information on the manufacturer's website	21 %
Social media info/campaigns (FB, Insta, YouTube etc)	42 %
Fairs (Elmia, IAA etc.)	16 %
Conferences	5 %
Trade magazines	11 %
I don't know	5 %
Other	37 %

Figure 4. The drivers get the information about safety features from different sources. Colleagues and social media are the top two.

In the comments to "Other" they mentioned:

- Calling the salesman when they have questions.
- Most things are standard today and I teach myself by trial and error.
- The trucks handbook/manual.

In the interviews some of the mention the **vehicle handover as a good opportunity** but the information from that needs to be transferred to all the drivers, and this is not always done. They often **learn by doing**. They suggested having QR codes or even better short films about the features **adapted to the driver's usage** on the digital screens.

Several drivers have suggested that the **information could be improved** by adapting and **personalise** information to be **pushed out** to them e.g. via the digital dashboard – like an "advice of the day" *"if you use system X it can support in Y situations"*

There have also been suggestions that there should be an updated safety book and information when purchasing and receiving a truck. Also suggested more videoclips on **social media** that are a common source of information among the drivers already today.

Among international drivers from the retain chain Spar it was suggested during group discussions that the regular **C95 training** should include safety features with information from different truck manufacturers.

To further investigate the drivers' attitudes we asked if they **worry that an accident may happen when you are driving a truck?** Almost half of the respondents of the online questionnaire answered that they **have concerns regarding traffic safety** and that they worry somewhat that an accident might happen. Only one driver has responded that they worry a lot.

During a group discussion a driver who expressed concerns that an accident might happen when driving, especially in the city, was counter argued that

"*You cannot worry, if you do then you should not be driving a truck".*

It aligns with the **attitude** that others expressed during the interviews that *I don´t worry, if I did, I can't work with this*. It's clear that even though accidents happen and it´s a part of their everyday job there is a risk that this is not brought up if the **culture** is not to talk about concerns.

	Percent
Yes, I worry a lot	5 %
Yes, I worry somewhat	42 %
No, I don't worry	53 %

Figure 5. Most drivers don´t worry about accidents

Respondents were asked whether they believe **safety will increase** or decrease **in importance** when selecting trucks 2–3 years from now. Safety has gained significant attention in the truck industry in recent years, and the majority of drivers expect its importance to continue to grow.

I think it will grow	85 %
I think the importance will remain the same	5 %
I think the importance will decrease	5 %
Unsure	5 %

Figure 6. Most drivers think the importance of traffic safety will increase

9 of 10 responded that **safety features** is an aspect that they, drivers, **value in general.**

When asked about **situations with the greatest risks** most of the respondents did point out **turning right** where there might be **vulnerable road users** such as cyclists or pedestrians as the situation with the greatest risk. The discussion was also reflecting that **city environments** where bicyclists and e-scooters have been pointed out as turning up from nowhere. Several drivers have expressed that bicyclists often behave as if they lack the ability of consequence thinking. Also **changing lanes**, **sudden stops** in traffic and vulnerable road users crossing the street are common answers. Examples of other situations mentioned are exiting **roundabouts** where

cars often are in the way and drivers in Gothenburg that according to the driver cannot drive (he was from Gothenburg himself!)

– *"A colleague was charged for an accident, but he had done everything right the bicyclists turned up so fast that it wasn't possible to detect"*

4.1.3 Active safety features

The features we asked about are listed below, along with the share of respondents who indicated that they value each safety feature the most. Multiple responses were allowed. **Cameras for improved vision** and **adaptive cruise control** received the highest shares of responses from drivers.

Cameras for improved vision	79 %
Active Steering / Lane Support functions (e.g. Lane Keep Assist and Lane Change Collision Prevention)	63 %
Speed Warning and Speed Adaptation	47 %
Attention e.g. VRU Warnings and Driver Attention Support	63 %
Adaptive Cruise Control	79 %
Advanced Emergency Brakes	74 %
Other	26 %

Figure 7. Share of drivers that have indicated which safety features they value the most

Cameras for improved vision

Figure 8. Digital rear view mirrors on a Volvo Truck

The drivers in this study have **generally** been **positive** towards using cameras for improved vision, for example **assisting in tight spaces**, but not all are positive to replacing the regular cameras to digital ones. The experience differs where some have expressed **difficulties** to see the image in the digital screens in some weather conditions and during twilight. In addition, it takes time getting used to and interpret the image in the right way. But the cameras are improving one driver had experience from MB first- and second-generation digital rear-view cameras - and the second generation was a lot better.

Figure 9. A Maut-post

> *"Volvo has digital rear-view mirrors with great night vision – the problem is when passing the Maut-posts – then they freak out and flashes - so it blinds you!"*

There have also been positive attitudes towards potential use of dashcams that can record accidents and prove that the trucks drivers are not to be blamed. This as long as there is no camera facing the driver. There is a mistrust that cameras that are facing the drivers might be misused.

Active steering/Lane support functions

Figure 10. MANs "Lane Return Assist"

The **lane support function with active steering** is **not always appreciated**. There are drivers that feel that the lane support function that place the truck in the lane **place the truck wrongly,** some also feel that the truck is places too close to the centre line of the road.

The feature is **not suited for narrow curvy roads** when the driver needs to cross the lanes without the truck steering them back. It can also be **problematic when there is snow, road constructions** etc. Also, can feel **uncertain when the road is slippery**.

There is a demand for clarity about the different lane support functions, how they work and how they differ.

– *"Lane support functions should be deactivated in lower speeds when the driver needs to be in control"*

Comment: There are the by legal demand mandatory "Lane Departure Warning System, LDWS" then most truck manufacturers offer functions with different names that supports the drivers by keeping the truck within marked lanes or steer back when approaching or crossing a lane or steer back when changing lane if there is a vehicle in the blind spot.

Speed Warning and Speed Adaptation

Figure 11. Speed sign information in a MB truck

The **Speed Sign Information** was generally seen as **unnecessary** the drivers know the speed-limit and think there is too much information.

Geofencing systems, for Scania named Scania Zone, (Volvo Trucks has a similar service since 2025), has not been used by any of the drivers interviewed. When describing the functionality, the drivers have mixed feelings about the automatic speed adaptation. Some thought it is **great at depots and outside schools,** but others thought that it is **scary** as they want to be in control**.** The driver always has control in the functions that are on the regular market today, but since the experience is that the vehicle takes over improved information on how the systems work would be beneficial.

Apart from clear speed information, information about the distance to the vehicle in front is appreciated. Here the functionality in MB and MAN was highlighted by a driver that thought that especially the Merecedes was good in with this information.

Attention e.g. VRU warning and Driver Attention Support

Features for increased Attention e.g. VRU warning and Driver Attention Support were combined in the questionnaire. But the experience differ - the **VRU warning is generally appreciated** but the feedback has sometimes been that there are **too many beeps and warning lights in city environments** and that they then are ignoring the warnings. The **Driver Attention Support is not always accurate**; it can warn the drivers when they just started.

Adaptive Cruise Control

Adaptive Cruise Control is generally highly appreciated but together with CCAP (Cruise Control with Active Prediction that adjust the speed to the topography to save fuel, Volvo use the name I-See) the drivers sometimes feel that **the speed varies too much**, going too slow uphill and too fast downhill. The drivers can also feel forced to use the feature in combination with the fuel saving feature to get a good grade. Contributing to a negative experience in some cases is that the adaptive cruise control is **not adapting the speed to curves or roundabouts.** Coming in to fast to a curve or a roundabout creates is a risk of damaging the truck or in worst case humans.

Advanced Emergency Brake

The AEB functionality stirred a lot of discussions**. It is very positive to have it**, but it is not known that there are different steps/levels for instance that there are brands that have emergency braking that also can stop the truck for vulnerable road users, pedestrians and cyclists. There are also new trucks with the functionality to brake when turning as well (AEB TAP -turning across path).

Figure 12. MB has an AEB-function that stops for vehicles and VRU.

MB active brake intervention acts in the speed range of up to 20 km/h by means of automated braking to standstill, if there is no reaction to visual or audible warnings.

Figure 13. MB emergency brake, "active brake intervention" during a right turn

Volvos AEB has a Distance Alert built-in function that is intended for major roads outside cities and is active above 60 km/h.

Figure 14. Volvos Distance Alert helps the driver maintain a safe distance

Some drivers have brought up that they also want it to brake for *animals*, the bigger ones can cause severe accidents. (But as it may brake for animals there can be consequences as a hash braking also can cause accidents to happen). There are also **several drivers that have experienced "false positives"** that is when the AEB system has been activated when it shouldn't and that perceived as **scary** and **causing drivers to turn the feature off when they know the risk is high** (e.g. on narrow turns like when exiting the highway)

- "*The radars are not accurate all the time. Better in private cars. Sometime activates when it shouldn't especially narrow curvy roads, that is scary!"*

Some drivers have also expressed that they would like to have AEB reverse it is scary to reverse even if the driver has checked in the mirrors and cameras all the sudden someone can be in the way that was not seen often a bicyclist or someone on an e-scooter.

4.1.4 Non active safety features

Even though the survey was focused on active safety there was an interest to include if alcohol interlocks (alco-locks) and airbags are appreciated and if the seatbelt is being used.

Alco-lock

Figure 15. Scania offers an alco-lock developed in cooperation with Dräger

The drivers in the study that have this are very positive! In a group discussion there were a few that were sceptical, they had heard that it would be complicated and not always work in the right way - but this was counterargued by a driver that had alco-lock that said that there has never been a problem for him or his colleagues. (the few negative responses in the questionnaire were also from drivers outside the Nordics that do not have any own experience from using alco-locks)

– *"I think it is really important to have alco-lock in all trucks. "*

– *"Should be in all cars as well in distribution; it's not complicated—if you have many stops, it's possible to adjust the time so you don't need to blow every time you start."*

Safety belt

As this simple feature is the number one live saver for drivers and we had fleet managers claiming that there were young drivers that did not use it we asked the drivers about the usage.

Almost all respondents always use the safety belt. There was one young female driver that gave the honest answer that she at occasions in the city, when going out and in a lot did, not put it on.

Airbags

Airbags are not a legal demand nor standard for trucks to be equipped with and the side curtain airbag is only offered by Scania. Most drivers had not given airbags much thought and about 1 of 5 could not give a response. But among the other they said that they appreciate the airbags, either in the steering wheel or in addition also the side curtain.

Figure 16. Side curtain airbag offered by Scania side curtain airbag is to protect the driver and passenger in case of a rollover accident.

4.1.5 Other safety aspects

Several comments concerned the **digital screens**. While they can be **beneficial**—for example by providing clear **camera views when reversing**—drivers reported recurring issues such as **difficulties accessing functions** and screens occasionally **turning black**. Some digital features were also described as **distracting**, as they require more visual attention compared with **physical buttons** operated through **muscle memory**.

Participants emphasised that **comfort** and **visibility** are fundamental prerequisites for a **safe driving environment**. When these conditions are not met, safety is compromised.

Figure 17. Scania's digital screen "smart dash.

Other valuable feedback

Many drivers feel that the **view on trucks and truck drivers is rather negative** that they are to blame for accidents even if it isn't their fault. They care of others in the traffic but feel that others sometimes act **carelessly as if they are not mindful or their own wellbeing.**

*– "Vehicles with 30 km/h driving speed for beginners, shouldn't be allowed on roads with heavy traffic. It's very dangerous for them and for us." **

* Referring to EPA-tractor/doodlebug.

4.2 Results Fleet managers

We sent the online questionnaires to 14 companies as well as spread it in in our professional network via LinkedIn. In total we got answers from 13 fleet managers and had a deeper conversation/interview with eight of them.

4.2.1 Background

We have used the term "fleet managers" but there is a wide range of responsibilities and titles being covered here, including procurement of vehicles and services to logistic planning and fleet management. All with a responsibility for road safety. There are also some that have the explicit responsibility for road safety or sustainability.

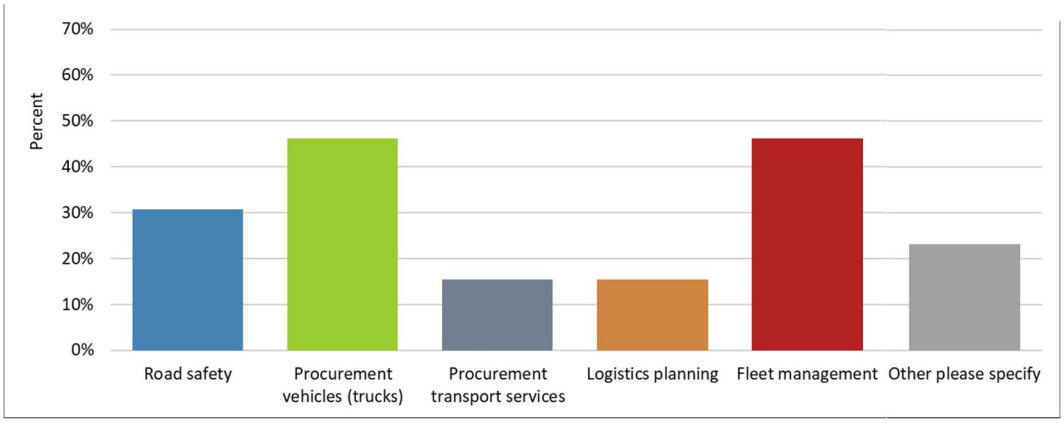

Figure 18. The fleet managers different roles. Multiple answers were possible.

Others:

- Sustainability
- Activity coordinator
- Driver manager

Most fleet managers have a long **experience** with the majority having worked for 13 years or more in the business. Apart from one woman the rest of the "fleet managers" selected male as **gender**.

When it comes to fleet size, the fleet managers in our study represented **medium and large fleets**, all operating with at least eleven trucks. One of the interviewed drivers came from a **small company that he owned himself**, mainly focused on special transport. His perspectives are therefore included under the driver findings rather than the fleet manager results.

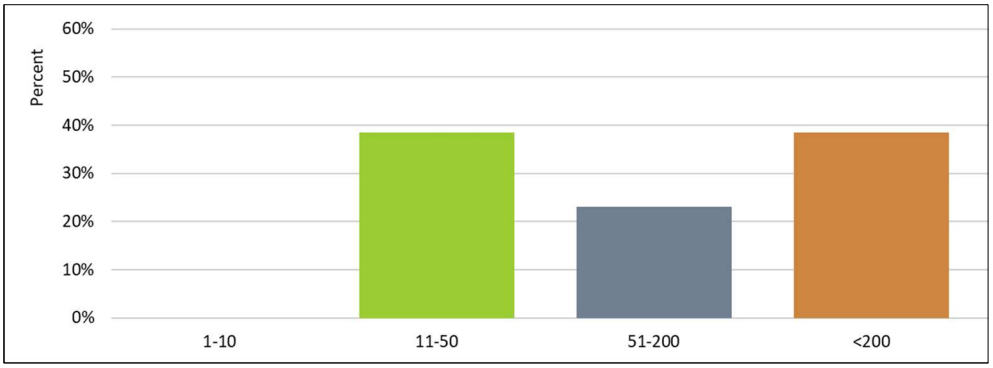

Figure 19. Size of fleet

The fleet managers mainly **operate** in the long haulage segment. Most of them use the truck **brands** Scania, Volvo and MB trucks in their fleet, some also have MAN. None of them only uses one brand, they all have a variation of different trucks, brands and models.

4.2.2 Communication and information

The fleet managers keep updated about **what safety features they can specify and acquired** by getting information from salesperson or colleagues. In the interviews most fleet managers agreed that vehicle hand-over has often been the best opportunity to understand the safety features. But this information is often received by the "Fleet manager" and seldom by the drivers that will use the truck the information. Therefore, it needs to be transferred, and many have said that this is not always done and there are room for improvements.

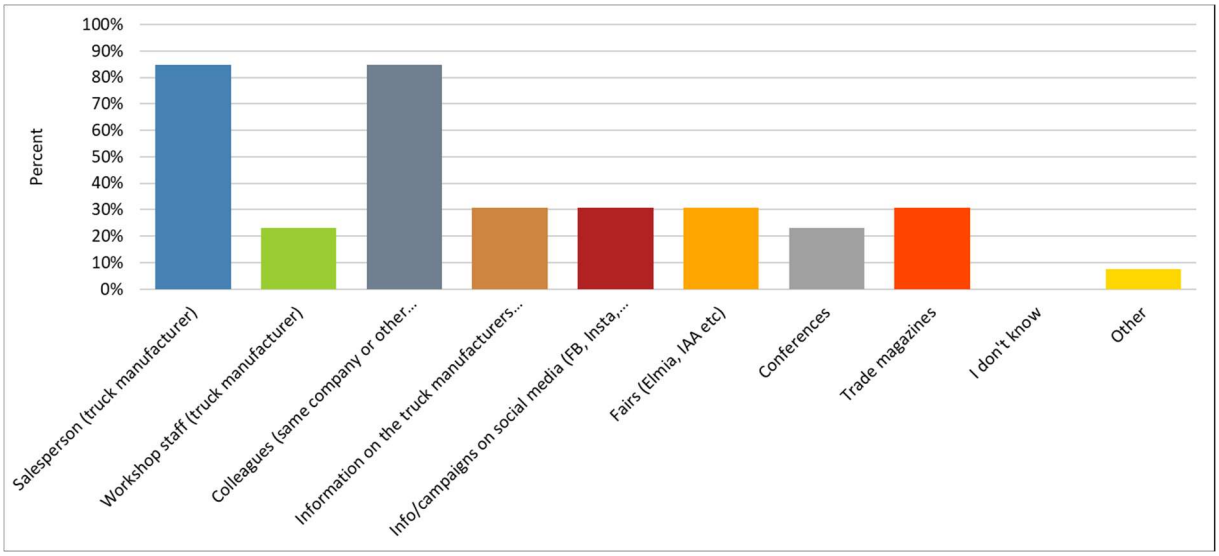

Figure 20 How "Fleet managers" keep updated about safety features that can be specified and used

Under others we find "Scania Transportlab" who also receive information directly from the Scania organisation. Sandahls also get information via an IKEA forum where IKEA connects to all their carriers.

It's often **hard to make sure that the drivers know which features the truck is equipped with and how to use them.** It has been highlighted that the employer's responsibility is significant in ensuring that information reaches them. The manager has to obtain the information themselves and transfer it.

For some companies, that for example buys a large fleet from one manufacturer or cooperate with them in other ways, there might be the possibility of a larger event where the drivers can **try out different vehicles** and learn more about new features. For example, this is the case with Ahola Transport who bought over 100 trucks just in 2025 and held an event together with Scania for drivers that use these new trucks.

Figure 21. Personal information from the vehicle manufacturer, like contact with the salesperson demonstration during the vehicle handover, is important

Dagab sometimes give their drivers a chance to **test drive new trucks** or book **meetings with the salespersons** that some of the drivers attend. When picking up the new truck they try to get 2-3 drivers to come along. If they recently have picked up a similar truck the information may get a bit rushed and if there are a **lot of information**, it might be **hard to remember** all details. When it comes to larger changes in the trucks function, they make sure all drivers get that information but smaller changes, such as improvement of already existing functions, it often goes unnoticed. A lot of time even the fleet managers don't get information on **smaller changes**.

One of the fleets (Scania Transportlab) participates in testing during the development phase of new systems/functions and thereby the drivers get a lot of information and experience.
There were several suggestions on **how the information can be improved**:

- As a **Newsletter** via the driver apps/fleet apps
- To get more detailed info when as **pop-up** when one login to the systems or push notifications via the digital screens in the cab with **personalised tips** based on how a driver operates and uses the features.
- Short **videos** on the TV in the break room and during workshop visits could also work well.
- Making the information **adaptive** and designed for the user and the use case. For instance, if a driver that drives a lot on highways are not using the lane support function it could produce a notification with information how this would benefit them.
- For the vehicles manufacturers and/or salespersons to have a **catalogue** with all the different features and how they affect safety. It would also be beneficial to list what features are required by law and information about features that are going to be on the market soon.

- The salesperson could **follow up** after a couple of months and inform them about how they've used (or not used) the features. The fleet managers themselves don't see the usage of the features but can ask the workshop.

Some fleet managers have noticed that it is hard to get the drivers to log in to different apps that they don't really need for their day-to-day work. Instead, an idea presented is to use the vehicles built-in digital screens for this information. QR code on specific parts in the cab is another idea – when scanning the code this could lead to a short film about a feature highlighted. It's important that the information is just enough and in the right channels to reach through.

Dialogue and driver behaviour

The frequency and content of **dialogue around road safety with the drivers** vary.

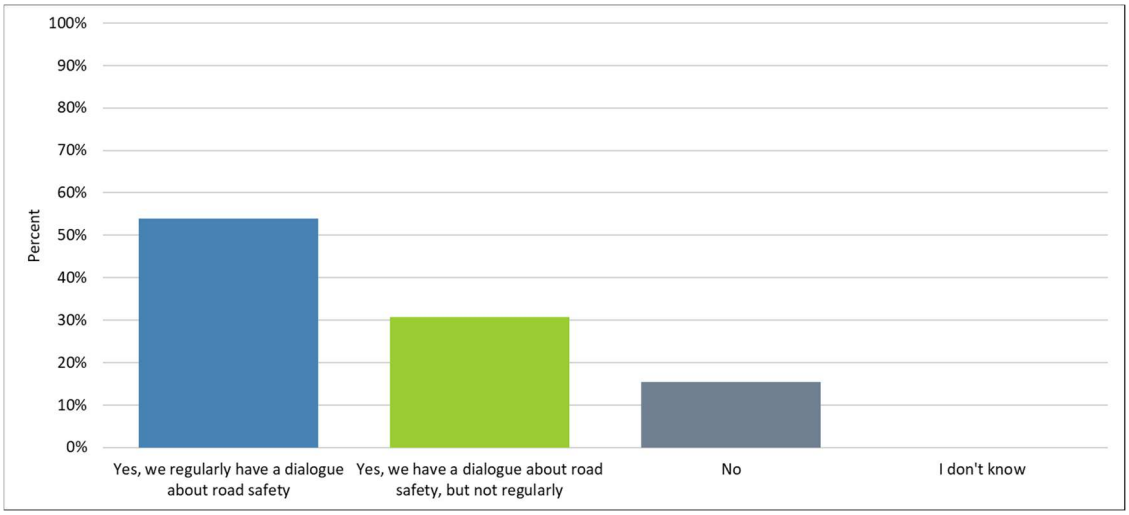

Figure 22. Most companies have a dialogue around road safety. 55 % have it regulary and 30 % have it but not regularly.

Over 50% of the respondents have a close **dialogue around road safety** and the ones we interviewed are certain that **nudging** is making a big difference. For example, the Finnish transport company Ahola sends out a message to the driver every morning with information about the driver performance to the respective drivers. The drivers can sometimes express some annoyance over, what they perceive as, **nagging**. Ahola has seen a **great improvement in driver behaviour**. Their drivers had an average grade 57,7 on a score 0-100 when they started and now, after a few years with active dialogue and by follow up on the performance, the average is 73,4. Ahola also uses the rating to compare the result with other drivers at the company and have **competitions as a way to motivate improvements**.

Sandahls uses a **bonus system** for drivers that measure, mainly, braking and speed (not linked to road signs). It is designed to target both fuel efficiency and traffic safety. They have two **driving coaches** who help the drivers improve. At first, many found the monitoring intrusive, but now acceptance is high—largely thanks to kickbacks tied to cost savings.

Scania transport labs are having **monthly dialogues** with their drivers. They use a tool for **driver score** that work as the basis för the dialogue. Today they can´t see which functions are used or disconnected, it would be interesting to see that and include it in the driver dialogues.

As most fleets have a mix of brands for their trucks it's impractical to use the built-in functions to **follow up on driver behaviour**, most of the fleet managers we talked to are using AddSecure to follow up the drivers' behaviours. AddSecure is connected to the truck's system and includes the same parameters as most truck brands own system. It has GPS tracking, tachograph data, speed monitoring, fuel consumption, and driving behaviour. The speed monitoring, however, isn't connected to the GPS and therefore can´t track speed compliance on individual road sections. Sandahls use both AddSecure and Volvos Fleet Management System "Volvo Connect".

Many of the fleet managers mentions that they have several ongoing projects in the safety field. For instance, a theme of the month now reminding of winter gear and check wheel bolts etc. Another company had a safety week with different activities, large and small, for instance how to fill out a "incident report´". The emphasis on these events has been on soft values and a mindset to always prioritise safety first.

4.2.3 Safety systems

One of the most important **tool to reduce the risk of road accidents** is the ability to plan. Foresight is essential when it comes to improving the planning. No employer should ever risk that the drivers are stressed as it contributes heavily to workplace hazards. Part of the planning is to check that the vehicle is in good condition and to do checks before and after, there is an app that is popular to use for this.

When buying a new truck, it's common to have demands on safety equipment such as alco-locks and cameras. Some have made a point of only buying trucks with all of the latest safety features.

- "We don't want to be in a situation where an accident happened that could have been prevented if the truck had been equipped with something we didn't include. We have a responsibility to make sure our drivers come home in the evening." (Dagab)

Even though Dagab always asks to be equipped with all relevant and available safety features, they still miss some of them from time to time. Better information about the functions could help prevent this.

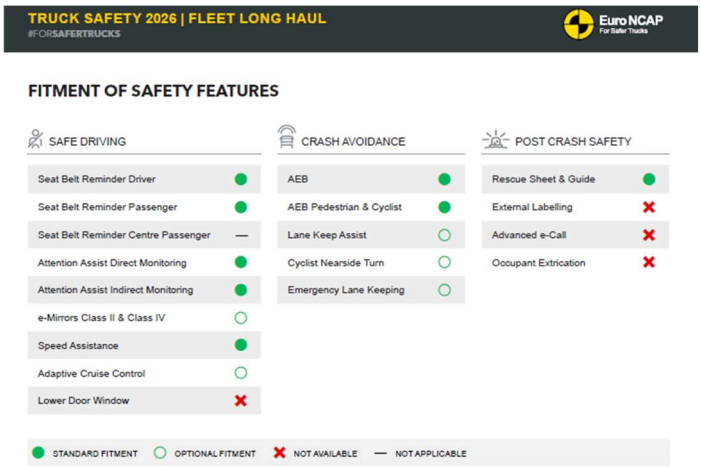

Figure 23. Euro NCAP has created the five-star safety rating system to help businesses compare vehicles and to help them identify the safest choice for their needs. The picture above display what is standard and what can be specified as optional fitment for a certain truck model.

When asked if they would appreciate a tool that shows if the drivers use the safety features and what **features they use or turn off** all fleet managers were positive. A problem occurs when a truck is driven by multiple drivers and the features doesn't go back to default settings between the different drivers. In that case the previous drivers' settings will affect the next driver and influence how they perceive the different safety features.

To get a high acceptance for any type of change it's important to notice and involve the informal leaders. Drivers who have been driving for a long time often have high esteem among their colleagues, and they listen to them. So, if they like the features, acceptance will increase. If they are negative, more people will become negative.

To see how the fleet managers view of safety features aligned with the drivers and how they assessed the drivers view on them we asked **Are safety features an aspect that the truck drivers value in general?**

Yes - to a high degree	46%
Yes - some degree	46%
No, not in general even if some do	8%
No, not at all from my experience	0%
I don't know	0%

No one answered that it's not at all an aspect that the drivers value, in the questionnaire nor in the interviews. But it is interesting to note that **the drivers have given an even higher value to the safety features** where 9 of 10 answered "Yes- to a high degree".

-*"When you drive our truck or are on work time, you must follow our rules!" (Dagab)*

In general, the **fleet managers marked fewer safety features as being appreciated by the drivers than the drivers themselves**.

	Fleet managers	Drivers
Cameras for improved vision	54%	↑ 79%
Active steering / Lane support functions (e.g. Lane Keep Assist and Lane Change Collision Prevention)	39%	↑ 63%
Speed warning and speed adaptation	39%	↑ 47%
Attention e.g. VRU warnings and Driver Attention Support	77%	↓ 63%
Adaptive Cruise Control	92%	↓ 79%
Alco-lock	54%	↑ 68%
Advanced Emergency Brakes	69%	↑ 74%
Airbags (curtain and steering wheel)	62%	↑ 79%

Figure 24. The safety features the fleet managers perceive the drivers appreciated and how the drivers actually appreciate them.

When it came to the safety features listed above the respondents of the online questionnaire could chose the features from a list, they could choose how many they wanted. Both the fleet manager's and the driver's question were identical apart from the fleet managers being asked to estimate the driver's appreciation. It's unclear why the fleet managers perceive the functions, at a general, as less appreciated than they

are but the interviews gave us some clues. Most of them can be traced back to the negativity bias, the fact that when something goes bad you have a need to talk about it.

– *"Automatic braking – has sometimes activated incorrectly, and the drivers have felt that the braking was harder than the situation needed. This can be a risk for the other vehicles on the road." (Ahola)*

The view **on digital rearview mirrors** is divided. The positive is that the driver gets a broader angle and that they often have good night vision. But it does take time to learn how to assess distance and they are more sensitive to damage. A rearview *mirror* can still work is slightly damaged, and they are easier and faster to replace.

Lane support can be perceived as problematic in snow, narrow roads and roadworks and it feels unreliable on slippery roads.

Cameras are one feature that are notable more appreciated by the drivers than the fleet managers think they are. Some cameras such as 360° cameras on trailers are not offered as standard but many companies, such as Ahola, **retrofit** them.

When it comes to **alco-locks**, all interviewed fleet managers report high acceptance and virtually no negative feedback. Modern alco-locks can be connected to the gearbox rather than the ignition, which means the cab heating can still be used. This can be important in the event of, for example, a false positive.

– *"All new trucks are equipped with modern Alco-locks, and there haven't been any issues or challenges with this - it is the new normal for us and for our drivers." (Ahola)*

– *"We have no problem when it comes to Alco-locks, no one questions it. The early aftermarket systems had some issues. Now we haven't heard of any problems." (Dagab)*

A **function that they are missing today** and that could be interesting to explore is cameras filming the driver to ensure they are wearing a seatbelt, not checking their phone, and are alert and awake. This must of course be done with consideration for GDPR and personal privacy.

5. Conclusions, Lessons Learnt and Next Steps

There is a clear need for improved information and training regarding active safety features. The topic is complex, as systems differ significantly between manufacturers — in functionality, design, and terminology. This variation makes it challenging for operators and drivers to gain an overview and fully understand the benefits of the available technologies.

There is also a risk when colleagues or social media become the primary sources of information, as perceptions can easily become biased or based on limited experience. Self-learning is common as well, which requires that drivers take the time to understand how the systems work and what kind of support they are intended to provide.

An open and constructive dialogue is essential — a space where concerns can be raised and discussed, and where potential risks, such as false positives or system limitations, are addressed transparently and proactively.

Drivers in particular need structured and practical information, ideally delivered through in-person training sessions or hands-on demonstrations. To support this, it is important that truck manufacturers provide easily accessible material, such as a safety handbook or individualised information that is proactively distributed. If this is not feasible, drivers should be encouraged to actively seek out information and be given sufficient time to explore and understand how the systems are intended to support them.

Experience shows that acceptance often increases with familiarity. For example, drivers who use alco-locks tend to support making them mandatory, while resistance is more common among those without firsthand experience. This highlights the importance of exposure, training, and continuous follow-up.

In driver groups on social media, a negative attitude toward safety features is spreading, with claims that they do not work properly and are therefore switched off. The sample in this survey was relatively small, so it cannot fully represent the wider driver population. At the same time, drivers who do not experience problems have less reason to comment, and discussions in these forums tend to be harsh and highly critical in general. This stresses the importance of continuing to strengthen a constructive safety culture, where issues can be raised and addressed in a productive way. Continuous communication and behavioural follow-up are key. Nudging mechanisms and feedback loops can be effective tools for strengthening both adoption and correct usage of safety features.

There is also value in identifying and highlighting best practices. Organisations that successfully combine training, behavioural follow-up, and structured implementation of safety systems can serve as role models. A natural next step could be to pair best-practice sharing with targeted information and training sessions, clarifying how different systems are intended to support the driver and in which situations limitations may arise. Ensuring that the right information reaches the right person at the right time is equally important.

6. Acknowledgement

We want to thank the respondents taking the time and bringing great input and energy into the discussions!
Special thanks to Jesper Lönnbäck, Alf Nyblom and Lucas Snellman at Ahola Transport.
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Mattias Svensson at Sandahlsbolagen.
Krister Kjellström and Pedro Goncalves at Dagab.

We also want to thank all the drivers and fleet manager at SPAR that between the driving competition took the time to discuss road safety issues and solutions.

We also had an enlightening discussion with the New York city administration's fleet representatives who told us about the work carried out by their team. That conversation showed that, even though some features are harder to implement, the strive for a safe work environment and saved lives are the same and that the safety features that are offered are much appreciated among both the fleet managers and the drivers.

Appendix fleet manager questionnaire with responses:

Questionnaire with responses truck drivers

Road Safety - Truck drivers 2025

1. Experience (years as truck driver)

	Percent
0-2 years	10.5%
3-5 years	26.3%
6-12 years	10.5%
13 years or more	52.6%
N	**19**

2. I identify myself as:

	Percent
Male	84.2%
Female	15.8%
Other /Prefer not to answer	0.0%
N	**19**

3. Main type of operation

	Percent
Long haul	21.1%
Regional haulage	42.1%
City distribution	10.5%
Construction	0.0%
Mixed	21.1%
Other:	5.3%
N	**19**

Other -	Special transport

4. Do you normally come home every day, or are you often away for several days at a time?

Name	Percent
I normally come home each day after work	40.0%
I normally work for longer than one day	60.0%
Do you also sleep in the cab?	40.0%

Comments sleep in the cab:
Rarely sleep in the cab, we often sleep in an accommodation.
Sleep in the cab, Sunday-Friday.

5. What truck brands do you drive?

	Percent
Scania	68.4%
Volvo	57.9%
Mercedes-Benz	31.6%
MAN	36.8%
DAF	10.5%
Other:	0.0%
N	**19**

6. Do you worry that an accident may happen when you are driving a truck?

	Percent
Yes, I worry a lot	5.3%
Yes, I worry somewhat	42.1%
No, I don't worry	52.6%
N	**19**

7. In which situations do you experience the greatest risks?

	Percent
Changing lanes	42.1%
Sudden stops in traffic	42.1%
Turning right where there might be vulnerable road users such as cyclists or pedestrians	73.7%
Vulnerable road users crossing the street	42.1%
Overtaking other vehicles	10.5%
Being overtaken by others	10.5%
Other:	26.3%
N	**19**

Comments other:
Driving with a short distance to the vehicle in front.
Unexpected overtaking and braking.
Exiting roundabouts, often cars in the way.
Drivers in Gothenburg. Gothenburg is the worst city to drive in and many drivers can't drive; they are not aware. Otherwise, no direct risks, it's important to take it easy and use adaptive cruise control.

8. How do you keep updated about which features can be specified and used to improve road safety?

	Percent
Salesperson (from truck manufacturer)	21.1%
Workshop staff (truck workshop)	15.8%
Colleagues (same company or truck drivers at other companies)	57.9%
Information on the manufacturer's website	21.1%
Social media info/campaigns (FB, Insta, YouTube etc)	42.1%
Fairs (Elmia, IAA etc.)	15.8%
Conferences	5.3%
Trade magazines	10.5%
I don't know	5.3%
Other	36.8%
N	**19**

Comments other:

I call the salesmen, if he doesn't know he will come back to me. If he wouldn't then he would lose his customer.
Most things are standard today and I teach myself by testing.
The trucks handbook/manual.
Self-taught (experience)
At the vehicle handover but this needs to be transferred to the drivers, and this is not always done. They learn by doing. Also, ideas to have QR codes or even better short films about the features adapted to the driver's usage on the digital screens.

9. Do you feel that you have good information about which truck safety features are being offered?

	Percent
Yes	57.9%
OK, but it can probably be improved	26.3%
No, I need more information to make informed decisions	10.5%
I don't know	5.3%
N	**19**

10. How can the information be improved? What suggestions do you have?

Answers
Information
Vehicles with 30 km driving speed for beginners, shouldn't be allowed on roads with heavy traffic. It's very dangerous for them and for us.
More clips on social media networks
That when purchasing/ordering a new truck, you receive all the information about which assistance systems are available/to order for the vehicle. (Maybe it is already like that?)
To have a regularly updated safety book (Guide) in the vehicle, or an app, containing all the safety equipment in the vehicle and other important general safety points for traffic and during the journey.
Hard to answer
Use the C95 training and let the different truck brand contribute to the training. Also use QR codes in the cab leading to short films about safety features.

11. Is safety an aspect you think will grow or decrease in importance when selecting which trucks to purchase? Estimate 2-3 years from now.

	Percent
I think it will grow	84.2%
I think the importance will remain the same	5.3%
I think the importance will decrease	5.3%
Unsure	5.3%
N	**19**

12. Are safety features an aspect you as a driver value in general?

	Percent
Yes - to a high degree	89.5%
Yes - some degree	10.5%
No - not in general even if some do	0.0%
No - not at all from my experience	0.0%
I don't know	0.0%
N	**19**

13. If yes which safety features, do you value most?

	Percent
Cameras for improved vision	78.9%
Active steering / Lane support functions (ex-Lane Keep Assist and Lane Change Collision Prevention)	63.2%
Speed warning and speed adaptation	47.4%
Attention e.g. VRU warnings and driver attention support	63.2%
Adaptive cruise control	78.9%
Alco-lock	68.4%
Advanced Emergency brakes	73.7%
Airbags (curtain and steering wheel)	78.9%
I don't know	0.0%
Other	26.3%
N	**19**

Comments:
Cameras for assistance in tight spaces.
AEB sometimes activates when it shouldn’t, I don't like that.
It takes time to get used to new features and the blinking and sounds, but once you've learned them, I’ve started to appreciate them. The same goes for cameras; I didn’t like them on the MB as I couldn’t see anything when it was dark and rainy, but they are getting better and will increasingly take over with the help of cameras.
AEB on newer ones at least; earlier there were problems with it activating when it shouldn’t. Lane support system is good on, for example, Essingeleden where the lanes are narrow.
All good except active steering.

14. Are there safety features you perceive as more annoying than supporting you as a driver?

Name	Percent
Yes	36.8%
No	52.6%
I don't know/Uncertain	10.5%
N	**19**

15. Please comment on which safety features you perceive as more annoying than supportive

Answers
Speed warning and active steering
The camera aimed at the driver's eyes to monitor eye movement, which is very annoying, at least currently.
Beeping and flashing can take attention away...
Possibly the emergency braking (AEB) since it can activate incorrectly.
AEB on narrow winding roads, especially with a heavy load and high speed. Then it can activate and it can be scary.
Especially if it beeps and flashes and takes away attention, as lane departure systems do, and they are only really worth having when there is a lot of traffic and narrow lanes. But more systems for this are good because there are so many bad drivers today.
Active steering esp. in some situations when I as a driver need to be in control.

16. Do you sometimes turn some safety features off?

Name	Percent
Yes	31.6%
No	68.4%
N	**19**

17. If yes, please tell us which features you sometimes turn off

	Feature 1:	Feature 2:
Driver A	Lane assist	
Driver B	Lane assist	
Driver C	Speed warning	Lane departure warning
Driver D	Lane assist	Adaptive Cruise Control
Driver E	The camera that monitors the eyes of the driver.	Attention support.

18. When do you use the safety belt? (when you are driving a truck)

Name	Percent
I always put my seatbelt on at all times	94.7%
There are very few occasions I don't put it on (less than once per month)	0.0%
There are some occasions when I don't put it on (happens monthly)	5.3%
There are many occasions when I don't put it on (happens weekly or more frequently)	0.0%
N	**19**

19. Are there any safety-related features you wish you could turn off or remove?

Name	Percent
Yes	26.3%
No	73.7%
N	**19**

20. What is your feeling towards having to use an alco-lock to start the truck? Please comment

Answers
I think it is really important to have it in all trucks.
I think it should be in all trucks/cars.
Very positive. I have no problems with it and it's always good for reducing the number of affected drivers.
Must have it.
Positive about alcohol locks, have it and it's no problem.
Should be in all cars as well in distribution; it's not complicated—if you have many stops, it's possible to adjust the time so you don't need to blow every time you start.
Positive, the one I drive now doesn't have an alcohol lock but it's no problem at all. I am positive about it.
It's really good.
Mixed feeling s among international drivers during a group discussion, some have heard that there are problems using alcolocks but one had it and said that there are no problems at all!

21. Do you appreciate if the truck is equipped with airbags?

Name	Percent
Yes, especially steering wheel airbag	31.6%
Yes, especially side curtain airbag	0.0%
Yes, both are equally appreciated	47.4%
No, it doesn’t matter for me	0.0%
I don't know	21.1%
Other	0.0%
N	**19**

Fleet managers responses

1. What is your responsibility? Mark all that apply:

Name	Percent
Road safety	30.8%
Procurement vehicles (trucks)	46.2%
Procurement transport services	15.4%
Logistics planning	15.4%
Fleet management	46.2%
CEO and/or owner	0.0%
Other please specify	23.1%
N	**13**

2. Experience (years in the business)

Name	Percent
0-2 years	7.7%
3-5 years	7.7%
6-12 years	38.5%
13 years or more	46.2%
N	**13**

3. Main type of operation

Name	Percent
Long haul	38.5%
Regional haulage	30.8%
City distribution	7.7%
Construction	0.0%
Mixed	15.4%
Other:	7.7%
N	**13**

4. Fleet size (Heavy duty trucks) that belongs to your company:

Name	Percent
1-10	0.0%
11-50	38.5%
51-200	23.1%
<200	38.5%
I don’t know	0.0%
N	**13**

5. What truck brands do you have?

Name	Percent
Scania	92.3%
Volvo	76.9%
Mercedes-Benz	76.9%
DAF	0.0%
MAN	38.5%
Other	0.0%
N	**13**

6. Do you have an active dialogue regarding road safety with the truck drivers?

Name	Percent
Yes, we regularly have a dialogue about road safety	53.8%
Yes, we have a dialogue about road safety, but not regularly	30.8%
No	15.4%
I don't know	0.0%
N	**13**

7. How do you keep updated about safety features that can be specified and used?

Name	Percent
Salesperson (truck manufacturer)	84.6%
Workshop staff (truck manufacturer)	23.1%
Colleagues (same company or other business colleagues)	84.6%
Information on the truck manufacturers website	30.8%
Info/campaigns on social media (FB, Insta, YouTube etc)	30.8%
Fairs (Elmia, IAA etc)	30.8%
Conferences	23.1%
Trade magazines	30.8%
I don't know	0.0%
Other	7.7%
N	**13**

8. Do you feel that you have good information about which truck safety features are being offered?

Name	Percent
Yes	69.2%
Ok, but it can probably be improved	15.4%
No, I need more information to make informed decisions	7.7%
I don't know	7.7%
N	**13**

9. How can the information be improved? What suggestions do you have?

Answers
Perhaps as newsletter via MyScania and Fleet/driver apps.

10. Is safety an aspect you think will grow or decrease in importance when selecting which trucks to purchase? Estimate 2-3 years from now.

Name	Percent
I think it will grow	69.2%
I think the importance will remain the same	30.8%
I think the importance will decrease	0.0%
Unsure	0.0%
N	**13**

11. What are your tools to reduce the risk of road accidents?

Answers
Internal routines, as well as requirements for alcohol locks, driving behaviour. The theme of the month reminds us about winter equipment, checking wheel bolts, etc.
Our company has various ongoing projects within safety.
Alcohol locks Bonus system for drivers Cameras Speed-limited cruise control.
We have all the safety systems that are available
"Buy" trucks with the latest equipment Information for the drivers Review of incidents
Training.

12. Are safety features an aspect that the truck drivers value in general?

	Percent
Yes - to a high degree	46.2%
Yes - some degree	46.2%
No, not in general even if some do	7.7%
No, not at all from my experience	0.0%
I don't know	0.0%
N	**13**

13. If yes, which features are, according to your experience, the most valued among drivers?

Name	Percent
Cameras for improved vision	53.8%
Active steering / Lane support functions (e.g. Lane Keep Assist and Lane Change Collision Prevention)	38.5%
Speed warning and speed adaptation	38.5%
Attention e.g. VRU warnings and Driver Attention Support	76.9%
Adaptive cruise control	92.3%
Alco-lock	53.8%
Advanced Emergency Brakes	69.2%
Airbags (curtain and steering wheel)	61.5%
I don't know	0.0%
Other	0.0%
N	**13**

14. Have you perceived any feedback from drivers indicating that some safety features are perceived as more annoying than supportive?

Name	Percent
Yes	69.2%
No	30.8%
I don't know/Uncertain	0.0%
N	**13**

15. Please share your thoughts on why certain safety features may be perceived as more annoying than helpful

Answers
Active steering can feel unnecessary for drivers, at least at first.
The lane-keeping system to keep the car within the lines. Lane positioning assistance where another driver has set the position.
Digital rearview mirrors are considered dangerous in traffic in darkness and bad weather. Filplaceringshjälp där annan förare ställt in placeringen.
Speed warnings Attention alert General beeps
Sound warnings
Digital rearview mirrors
Speed alert Lane assist

16. Do you follow up drivers' behaviour in general (e.g., speed, anticipation, harsh braking, etc.)

Name	Percent
Yes	69.2%
No	30.8%
I don't know	0.0%
N	**13**

Skip this question if you do not follow up, or if you are not aware of any features you follow up on.

17. If any – which safety features, do you follow up on the usage of?

	Feature 1:	Feature 2:	Feature 3:
Fleet manager A	Alco-lock	Axle weights	Blind spot monitoring
Fleet manager B	AddSecure: driver behaviour etc.	Alco lock	
Fleet manager C	Speeding	Braking	

18. What safety-related features do you wish you could follow up the usage on?

Answers
We use AddSecure to follow up everything from speed and hash braking.
Speed Seat belt usage Alco-lock