PRESS RELEASE

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Scania's new truck range:
Safest with rollover side curtain airbags and better brakes

- **The first truck with rollover side curtain airbags**
- **Greater braking ability with a repositioned front axle and a lower centre of gravity**
- **The cab structure has been improved to provide increased safety for all occupants**
- **Optimised visibility leads to increased safety for vulnerable road users**
- **Simpler and faster to repair, thanks to modular construction**

The most serious types of accident for truck drivers are when the vehicle overturns during an evasive manoeuvre, when taking a bend too fast, or when the truck doesn't stop quickly enough, for example in a sudden traffic queue. Scania has enhanced both active and the passive safety in the new truck range with a number of features that will protect both those inside the cab and other road users. By introducing rollover side curtain airbags, Scania estimates that the number of drivers killed in rollover accidents could potentially be reduced by 25%.

"Apart from the statutory automatic braking function, the majority of trucks our customers buy in Europe are also equipped with a number of other active safety-enhancing driver support systems," says Christofer Karlsson, Head of Crash and Safety Systems at Scania. "But regardless of how well things like the various electronic systems work, you still need really good basic materials to create maximum performance when it comes to safety."

Scania developed the basic structure of the cabs in the new truck range together with sister company Porsche Engineering. Thanks to a generous helping of high-tensile steel and modern assembly techniques, the engineers have created an incredibly robust cab structure. For example the new, large S cabs with flat floors can withstand accidents just as well as the other cabs in the range.

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The cabs in Scania's new truck range can be fitted with rollover side curtain airbags, the truck world's first. Drivers injured in rollover accidents, for example when the truck veers off the road after evasive action, are a significant problem in the transportation industry.

"Seat belt use, the new rollover side curtain airbags and steering wheel airbags, together with seat belt pre-tensioners, mean that an occupant has considerably greater chances of surviving a rollover accident with fewer injuries than would have been the case in another truck," says Christofer Karlsson. "The advanced emergency braking system considerably improves safety, and now Scania is also providing a number of additional contributions in the form of further developed braking features and a lower centre of gravity."

The new cabs have been designed and tested to cope with Sweden's tough impact testing (despite the fact that it is no longer a legal requirement), in which the same cab is tested in three different scenarios to simulate a rollover accident. Furthermore, the steering column beneath the steering wheel has been constructed to absorb impact energy and reduce the impact force to which the driver could be subjected.

Both the structure and the complete cabs in Scania's new truck range undergo a wide variety of brutal tests during the development process. Scania's cabs survive tests in which the same cab is subjected to impacts from several directions, corresponding to what happens in a real-life accident in which the truck rolls over, for instance.

The standard position of the front axle has been moved 50 mm closer to the front. Among other things, this creates a shorter overhang and reduces the degree of kneeling under heavy braking (particularly as the cab's centre of gravity has also been lowered).

The basic configuration for long-haul vehicles is now for them to have 30" brake chambers for the disc brakes on the front axle. This further guarantees good braking performance, regardless of whether it is the driver or the AEB system in operation. The actual braking distance is always affected by factors such as tyre and road condition, but all else being equal, the new truck has a 5 percent shorter braking distance; if it would have been 40 meters before, it's now 38 meters – meters that can really make a difference.

Vulnerable road users

During development work, Scania also gave high priority to the truck driver's ability to interact with other road users, not least vulnerable ones such as cyclists and pedestrians. Unfortunately, other road users do not always understand the special circumstances that apply to a truck in traffic. Not least, therefore, trucks must be designed in a way that provides drivers with maximum support in the form of optimum visibility and manoeuvrability. Even minor accidents at low speeds where no one is harmed, such as low-speed collisions with cars, mean costs and inconvenience, which can now be reduced.

A driver handling a vehicle that behaves harmoniously and predictably runs a far lower risk of being stressed and ending up in vulnerable situations. Optimal visibility, especially near the truck, is therefore a major contributory factor.

"It is about seeing everything from the driver's position, from the design of the A-pillars and the size and shape of the glass surfaces, to essential details in the design of the vehicle's various mirrors," relates Christofer Karlsson. "But one must not forget features like the cab interior being ergonomically designed, the steering being accurate and that the vehicle should respond smoothly to the driver's every intention. A stressed driver is a worse driver, whereas a driver who feels the vehicle interacts perfectly is at less risk of being involved in an incident."

There are excellent options for equipping your Scania with support systems in the form of camera sensors and other warning systems. The trucks' audio systems are equipped to handle up to four different cameras and, for trucks that work in urban environments, can for example present an overview of the truck's immediate surroundings. Due to the fact that Scania's vehicles have been using modern CAN bus technology (Body Communication Interface) since 2014, the functionality of auxiliary equipment and accessories can be conveniently controlled using programming instead of via wiring.

Easily fixed means greater uptime and availability

However, if there is an accident and the truck must be repaired, Scania's unique modular construction guarantees high parts availability, as the truck spends no more time in the workshop than is absolutely necessary. Another clear goal in the development work was to considerably reduce customers' downtime for the repair of minor exterior damage, regardless of whether the vehicle is covered by an R&M contract or not.

"One overall goal is of course to keep customers' costs down, as well as the time it takes to repair the new vehicles," confirms Lars Karlsson, Head of the Services Range at Scania. "Another goal is to halve the number of vehicles that, for whatever reason, can no longer be driven. It is a very ambitious goal and only time will tell if we have succeeded. But from what we have seen during our development work and throughout the extensive field tests with vehicles being operated by our customers, the goal seem to be within reach."

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