# Safe.


Safe mobility. Billions of people are on the move worldwide every day. Daimler is working to make the mobility of the future as safe as possible for all of them. Our primary goal is to ensure that accidents never happen to begin with. As a pioneer in the field of safety, we are moving forward on the “road to accident-free driving.”

The first journey taken by a self-driving truck: the Mercedes-Benz Future Truck 2025.

# Hands off the wheel.

At the wheel here is the technology of the future, which is already a reality at Daimler today. At the IAA Commercial Vehicles 2014, the Mercedes-Benz Future Truck 2025 study offered a visually fascinating and technically feasible preview of the future of freight transport. The Future Truck 2025 marks a revolution in road freight transport, traffic infrastructure, the truck-driving profession and the freight forwarding industry, and is thus a key component of the transport system of tomorrow. The vehicle was designed to ensure the highest degree of road safety and efficiency, and it will also help to further reduce fuel consumption. Thanks to the “Highway Pilot” with networked sensors and cameras, the driver can simply turn control of the truck over to an autonomous high-tech system. This capability was successfully demonstrated by a prototype on the autobahn.

**Video.**
The spectacular world premiere of the Highway Pilot system on the A14 highway in Germany.

**Outstanding safety.** The eye-catching appearance of the Mercedes-Benz Future Truck 2025 underscores the vehicle's unique technological capabilities. The self-driving truck also marks a major step away from traditional trucks and towards the autonomous transport vehicles of tomorrow. With its aerodynamically optimized design, the truck's cab exudes maximum calm and power. Cameras have replaced the exterior mirrors, and classic elements such as headlights seem to be missing at first glance. LED lamps in the bumpers light up after the engine is started, indicating that the Future Truck 2025 is ready to roll. The truck's lights turn white when the prototype is driven manually. When the truck is driving autonomously, the color of the lights changes to a pulsating blue to clearly indicate the vehicle's operating mode to other road users.

**Innovative design for the cockpit as well.** Displays, a touchpad and a tablet computer replace familiar instruments and switches in the Future Truck 2025. Long-haulage trucks from Mercedes-Benz already feature a visual separation between living and driving areas. In the future, the cab will also include a workplace for autonomous driving phases. It will be possible to move the seat back completely and turn it 45 degrees to face into the cab space.

The Highway Pilot keeps the truck in its lane more precisely than any driver can. When it is driving autonomously, the Future Truck 2025 will enable drivers to work in a completely new way.

**A revolution on the road. In the summer of 2014, auto industry specialists and journalists from around the world witnessed the cutting-edge capabilities of the Highway Pilot in a camouflaged prototype of the Future Truck 2025. Although a driver was sitting at the steering wheel, the Highway Pilot drove the vehicle all by itself.**


"Avoidance of human error at the wheel will reduce danger and accidents. Traffic will flow more calculably and safely. The traffic system will become more flexible and infrastructure will be utilized more effectively. The Future Truck 2025 will facilitate a quantum leap in terms of safety and efficiency."

Hans Luft, Daimler Wörth plant, Truck Testing

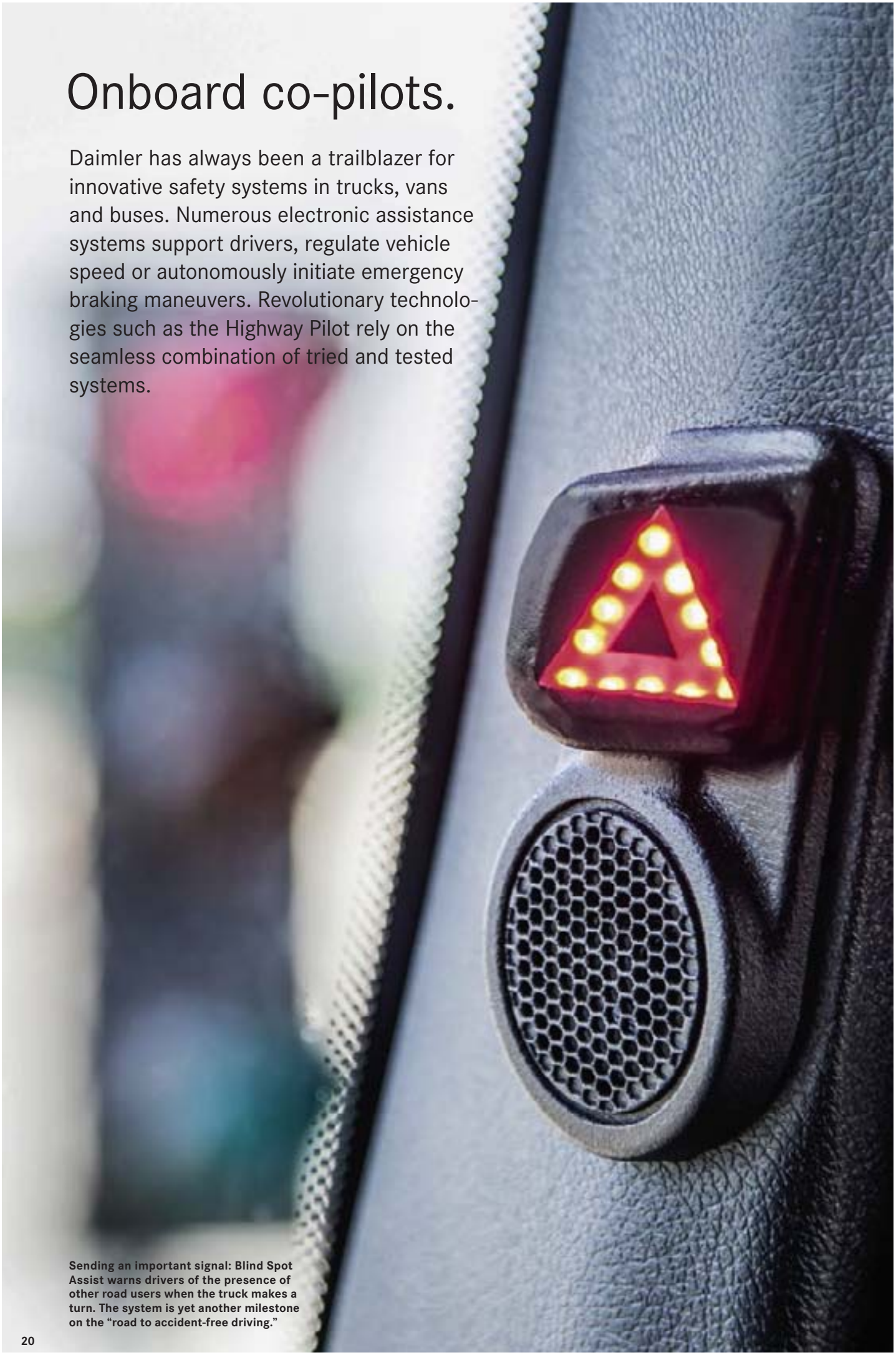
**Highway Pilot activated – technology takes the wheel.** It's a vision that the automotive pioneer Daimler has put on the road. Back in 2013, Mercedes-Benz Cars became the world's first automaker to prove that autonomous driving is possible in cities and on country roads with the Mercedes-Benz S 500 INTELLIGENT DRIVE research vehicle. That car's groundbreaking technology was also incorporated into the Mercedes-Benz Future Truck 2025. In a further milestone for autonomous driving systems, the fascinating technology in the Future Truck 2025 demonstrated its capabilities in real traffic situations in the summer of 2014. This success was particularly noteworthy because it was achieved with existing and near-production technologies such as Proximity Control Assist and Active Brake Assist.

**On the road today in the truck of tomorrow.** A route of around 30 kilometers with alternating stretches of open road and slow-moving traffic. Just a normal trip? Far from it, as the journey was taken by a camouflaged prototype of the Mercedes-Benz Future Truck 2025, which drove itself along the A14 highway near Magdeburg in Germany. During the trip, the "driver" did everything but drive, performing tasks such as order scheduling, checking e-mails and reserving parking spaces. This revolutionary achievement was made possible by the Highway Pilot system. The "brain" of the Future Truck 2025 consists of radar sensors, a stereo camera, three-dimensional maps and a system that allows the truck to communicate with other road users and road infrastructure.

**The Future Truck 2025 pays attention and makes space.** After the driver turns on the highly intelligent system, he or she can let go of the steering wheel. The long-haulage truck continues to travel at the desired speed, maintains a safe distance to the vehicle ahead and stays precisely in its lane. The Future Truck 2025 also reacts to unanticipated events. For example, it smoothly adjusts its speed if the traffic ahead slows down or comes to a halt. If an emergency vehicle approaches from the rear, the truck automatically moves over to make space and then returns to the center of the lane. Still, even in the cockpit of the future, the driver remains completely in control. For example, he or she can disengage the Highway Pilot and resume control of the vehicle at any time by hitting the brake or the gas pedal or simply pushing a button.

# Onboard co-pilots.

Daimler has always been a trailblazer for innovative safety systems in trucks, vans and buses. Numerous electronic assistance systems support drivers, regulate vehicle speed or autonomously initiate emergency braking maneuvers. Revolutionary technologies such as the Highway Pilot rely on the seamless combination of tried and tested systems.



**Sending an important signal: Blind Spot Assist warns drivers of the presence of other road users when the truck makes a turn. The system is yet another milestone on the "road to accident-free driving."**

**Blind Spot Assist makes turns and lane changes even safer.** Now that assistance systems can prevent, lessen or warn of accidents that could result from rear-end collisions or a truck veering off the road, researchers have turned their attention to potential dangers that arise during turns. Whether it's cyclists or pedestrians – things can get dangerous for other road users if truck drivers can't see them. The innovative Blind Spot Assist system from Mercedes-Benz uses radar sensors to monitor the entire side of the truck and can reliably warn drivers of potential hazards during turns. In addition, the system monitors the tracking pattern of the semitrailer during a turn and will issue a warning if its sensors detect a stationary obstacle such as a set of traffic lights. Blind Spot Assist also supports drivers when they change lanes. Following extensive practical testing, Blind Spot Assist will go into series production sometime in the next few years.

Blind Spot Assist is an important step on the road to the transport system of the future and underscores our role as a pioneer for achieving the highest degree of safety in road transport.

A positive trend: Despite the fact that road freight transport has increased, accidents involving trucks have declined sharply – thanks to state-of-the-art assistance systems whose development is being driven by Daimler in particular.

**Active Brake Assist ABA 3: emergency braking for stationary obstacles as well.** A sudden obstacle after a curve, a sudden traffic jam – such hazards require extreme alertness on the part of truck or bus drivers, as well as the ability to respond quickly. ABA 3 can save lives in such situations, including the lives of other road users. That's why as of late 2015, legislation will require all newly registered coaches to be equipped with an emergency braking assistance system. The Mercedes-Benz Travego Safety Coach is the world's first coach to be equipped with the latest generation of Active Brake Assist before the legislation goes into effect. The predecessor generation, ABA 2, was already able to initiate a braking maneuver when there was a risk of a collision with slower vehicles ahead or with stationary obstacles. The new Active Brake Assist 3 prevents imminent collisions with a stationary object by automatically bringing the vehicle to a standstill. This forward-looking safety technology from Daimler helps to prevent accidents and significantly reduce the severity of those accidents that do occur.

**Crosswind Assist enhances driving safety and eases the strain on drivers.** Crosswind Assist is yet another safety system with which Daimler is setting new standards in the van segment. Since 2013, Mercedes-Benz has been the only van manufacturer to offer such a system as standard in a Sprinter-class van. Last year, it also became the first automaker to offer it in a Vito-class model. The system's sensors register the effect side wind gusts have on the vehicle when it is crossing bridges or passing other cars, for example. ESP (Electronic Stability Program) then brakes the wheels facing the wind gust. This significantly reduces sideways movement and noticeably eases the strain on drivers. The feeling of safety and comfort is thus enhanced and inappropriate driver reactions in heavy winds are prevented.

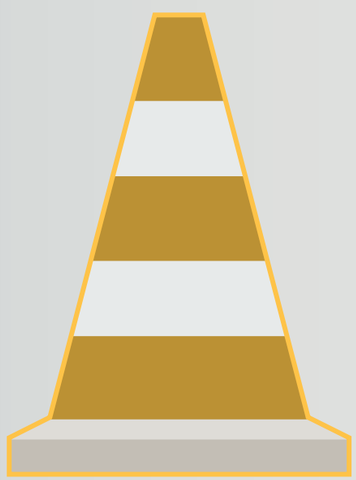

**Crosswind Assist keeps the van safely in its lane even in heavy winds.**

# Our road to accident-free driving.

**An integrated safety concept.** Avoiding danger, permanently easing the strain on drivers, providing active assistance in difficult situations and offering optimal protection to all road users – these are the four pillars of our “road to accident-free driving.”

**A safety pioneer.** We don’t just build automobiles, we also continually enhance safety with innovative protection systems. Daimler engineers are often ahead of their time in this field.

**Intelligent vehicle systems and autonomous driving.** We equip vehicles with “senses” by connecting various systems to ensure comprehensive protection for vehicle occupants and all other road users.



## Milestones on the way to accident-free driving.

**By 2017**

**Further advances in autonomous driving.** Step by step, partially autonomous driving will become possible also at higher speeds. Further steps will incorporate overtaking procedures and highly autonomous highway driving. Autonomous parking functions will also be available and the prospect of parking without anyone sitting in the vehicle will be within reach.

**Blind Spot Assist.** This driver assistance system reliably warns truck drivers of potential hazards during turns in critical situations where visibility is limited. This important innovation is also one of the safety technologies included in the Future Truck 2025.

**2015**

**Active Brake Assist ABA 3 in buses.** The latest generation of the emergency braking assistance system also initiates an automatic emergency braking maneuver when it encounters stationary obstacles. The Mercedes-Benz Travego Safety Coach is equipped with this system and thus ensures greater safety than is required by current legislation.

**2014**

**MULTIBEAM LED headlights.** In its new CLS-Class model, the trailblazing Mercedes-Benz brand offers a precision LED matrix module that provides even better light quality and even greater safety at night.

**Highway Pilot.** Networked assistance systems and improved radar sensors enable this system to carry out the world’s first autonomous truck journey at normal speeds and in realistic highway traffic situations.

**2013**

**S 500 INTELLIGENT DRIVE.** Mercedes-Benz becomes the world’s first automaker to send a self-driving test vehicle into 21st-century traffic along the historical route once driven by Bertha Benz.

**DISTRONIC PLUS with Steering Assist and Stop & Go Pilot.** Introduced for the first time in the new S-Class, the assistance system helps to maintain a safe distance to the vehicle in front and a position in the center of the lane. This substantially eases the burden on the driver, especially on long stretches and when driving in slow-moving traffic.

**Crosswind Assist.** Reduces the sideways movement caused by strong wind gusts and has been standard equipment in the new Mercedes-Benz Sprinter since the large van’s market launch, making the Sprinter unique in its segment.

**2012**

**Active Brake Assist ABA 3 in trucks.** The third-generation emergency braking assistance system brings the Mercedes-Benz Antos and Actros trucks to a standstill to prevent collisions also with stationary obstacles. This either completely prevents rear-end collisions or else reduces their severity.

**2011**

**Collision Prevention Assist.** The new B-Class is the only vehicle in the compact segment worldwide that comes with a radar-based collision warning system with an adaptive braking assistance feature. The system protects against rear-end collisions at speeds of between 30 and 250 km/h. The B-Class thus sets a new standard for safety in its segment.

**2010**

**Active Blind Spot Assist.** This system supports safe lane changes. If the system detects a vehicle in the exterior mirror’s blind spot, it first issues a visual warning and an acoustic signal. If the driver fails to react, the system will then brake the vehicle autonomously.

**Active Lane Keeping Assist.** This system was initially introduced in upper-range Mercedes-Benz models. It engages whenever the driver inadvertently drives onto a continuous line to the right or left of the vehicle. It keeps the vehicle in its lane by autonomously braking the wheels on the other side of the vehicle while simultaneously warning the driver with a visual signal and an acoustic alarm.

## Redefining safe driving.

Safety will remain extremely important in the future as well. For this reason, we are focusing on driver assistance systems and autonomous driving functions up to and including the ground-breaking use of real-time digital information via augmented reality systems. In this way, we are making the interaction between our vehicles and their drivers more intuitive, more personal and safer.

**www.daimler.com/technology-and-innovation**

Safer driving without any sacrifice of comfort or driving pleasure.
You can learn more about autonomous driving and Intelligent Drive here.