

## SHOWROOM

### More Telematics and Infotainment in Cars: Mobile Internet with myCOMAND



With the “myCOMAND” research project, Mercedes-Benz has launched a new, Internet-based telematics and infotainment system. This system shows the functions that drivers will be able to rely on in a few years’ time, when Internet access via radio networks will not only be nearly universal but will also feature substantially higher bandwidth than is available today. Here, one of myCOMAND’s tasks is to keep all data and information updated via the Web.

The off-board navigation system, for example, always uses the latest map data and takes into account online traffic report data when selecting driving routes. Alongside the usual road maps, the system can also display satellite images. The Trip Assist accesses important information online and presents it to the driver the moment it is needed. It reports the weather conditions along the route and provides information about hotels and leisure offerings at the destination. In addition, the World Radio receives broadcasts from radio stations all around the world. Drivers can also conduct a targeted search for stations that broadcast the kind of music they like.

Thanks to VoIP (Voice over Internet Protocol), Internet telephony with myCOMAND allows users to make telephone calls free of charge, send text messages via the Internet, or simultaneously transmit speech and data content.

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### Small Turning Radius in São Paulo

In Brazil, the Mercedes-Benz 710 Plus light truck is a top-selling vehicle. Now it has not only a new engine with more power and torque; its turning radius has also been reduced to 13.4 meters. What’s more, the engineers have slimmed the truck down, reducing its width to 2.19 meters. The possible range of applications for the light truck has been expanded as a result.

“With its new width and a wheel-base of 3.70 meters, the 710 Plus complies with the specifications of São Paulo’s VUC (Urban Freight Vehicles Law). This means it can now be driven in



zones that are otherwise closed to trucks,” says Eustáquio Sirolli, Truck Products Marketing Manager at Mercedes-Benz do Brasil. As a result, transport companies and delivery drivers can now deploy the 710 Plus as a delivery vehicle anywhere in the city of São Paulo, thereby boosting their efficiency.

The truck’s efficiency has been further enhanced by the vehicle’s lower maintenance costs and new engine, which delivers higher performance while consuming less diesel.

### A Cruise Control That Knows the Road

In March 2009 at the Mid-America Trucking Show (MATS), Daimler Trucks North America presented Predictive Cruise Control



(PCC), a new cruise control system that helps to reduce fuel consumption.

The assistance system, which was developed by Daimler Research engineers in Stuttgart, Germany, and Portland, Oregon, automatically adjusts the truck's speed to the route driven, based on a map- and satellite-based preview of the roads selected. Unlike a conventional cruise control system, which tries to maintain a pre-selected speed regardless of the changing topography, PCC adjusts the engine output in line with approaching uphill and downhill stretches.

With the help of GPS technology and the digitized three-dimensional map data, the assistance system presented in Freightliner's New Innovation Truck "knows" that uphill and downhill gradients are coming when the truck is still a mile away. Based on this data, the PPC system determines the appropriate gear and most fuel-efficient speed.

### Mercedes-Benz Citaro FuelCELL Hybrid: Zero-Emission City Driving

Making consistent progress toward a clean future: In June of this year Mercedes-Benz Buses presented its first fuel cell-hybrid bus – the Citaro FuelCELL Hybrid regular-service city bus. Now the new vehicle will be extensively put through its paces during a large-scale fleet test, which calls for the bus to be used in regular daily service by public transport companies.

The plans call for a Europe-wide test – similar to the European Union's successful CUTE fleet test – to be conducted in several cities. As part of CUTE and other projects, 36 Mercedes-Benz Citaro fuel cell-powered buses have been delivering top performance for 12 public transport companies on three continents since 2003. Altogether, the buses have been driven more than two million kilometers during roughly 135,000 hours of combined operation, impressively proving their suitability for everyday use.

The new Mercedes-Benz Citaro FuelCELL Hybrid draws on this experience. Testing the 36 vehicles provided important findings that were used in the development of the new drive system. And the bus also uses key elements from the Citaro G BlueTec Hybrid. As with



the BlueTec bus, the new vehicle's drive technology was completely redesigned. Its main components include axles fitted with electric hub motors, lithium-ion batteries to store energy, and all electrically powered ancillary components. The Citaro FuelCELL Hybrid's hydrogen consumption is much lower than that of previous fuel cell buses, thanks to a hybrid drive with a sophisticated drive system control unit. The biggest plus for passengers is that the Citaro FuelCELL Hybrid not only emits zero pollutants when under way but is also virtually silent. These strengths make it an especially good choice for public transportation in inner cities.

### Crash Test and Crumple Zone Milestones

In June about 1,000 experts came to Stuttgart, Germany, for the 2009 International Technical Conference on the Enhanced Safety of Vehicles (ESV), the world's most important convention for vehicle safety.

The experts' objective was to promote the sharing of knowledge worldwide and networking in all areas related to vehicle safety. The main focal point in this field used to be passive safety, but driver assistance systems and an integral approach to safety have been attracting greater interest in recent years.

In addition to a driver assistance system demonstrator and a PRE-SAFE demonstrator, Mercedes-Benz presented the 2009 Experimental Safety Vehicle (ESV), which features groundbreaking, innovative technologies. Daimler developed the first ESV over 30 years ago. Back then, the vehicle was already equipped with innovations such as airbags, ABS, and side impact protection. Daimler also exhibited a vintage car whose "genes" are still shaping automotive design today. Exactly 50 years ago, the world witnessed the launch of the Mercedes-Benz W 111 – the first series-produced vehicle with a crumple zone and rigid occupant cell. The year 1959 marked not only the birth of passive safety; it also was the year that the then Daimler-Benz AG conducted the first systematic crash tests.

### Improved Aerodynamics Yield Savings: The Vito BlueEFFICIENCY Show Car



The Vito BlueEFFICIENCY show car presented by Mercedes-Benz is clearly an aerodynamic, economical performer. The concept vehicle shows the development potential of vans. Many of the presented innovations will soon be available as standard equipment or options. An aerodynamics package reduces air resistance, and thereby also consumption. The van's underbody paneling reduces turbulence, while cameras in place of exterior mirrors ensure improved airflow around the body. The aerodynamics package also includes concealed windshield wipers, a roof with a low-drag plastic surface, recessed roof racks, and a rear spoiler lip. In addition, the intelligently designed engine cooling system also reduces wind resistance: Three louvers behind the radiator grille open and close, depending on the vehicle's speed and coolant temperature. What's more, vents in the sides and floor disperse heat.

The van's ECO start-stop function turns off the engine as soon as the vehicle stops moving. This function is integral to the Vito's battery and generator management. When the battery is well charged up, the generator switches off and the on-board network draws its power from the battery. The battery charges when the vehicle is being braked or coasting. A six-speed manual transmission with a wide gear ratio spread makes it possible to smoothly start off uphill in a loaded van. The long ratio of the sixth gear lowers the rpm at higher speeds, thus reducing fuel consumption. The van's tires are designed to reduce rolling resistance, while the LED headlights and tail lights require less electricity, which saves fuel.

The savings potential of the Vito BlueEFFICIENCY includes lower fuel consumption of up to 1.5 liters per 100 kilometers and a CO<sub>2</sub> emissions reduction of as much as 40 grams per kilometer.

### Energy-Saving Prize for Hybrid Bus

Saving energy can pay off in more ways than one. In Japan the Aero Star Eco Hybrid bus from Mitsubishi Fuso has been awarded the Energy Conservation Center Chairman's Prize in recognition of its impressive fuel efficiency.

The prize, which is presented by Japan's Ministry of Economy, Trade and Industry (METI), was conceived to promote public awareness of energy issues by supporting the development and widespread use of systems, technologies, and materials that have above-average energy savings potential.

These are exactly the criteria fulfilled, for example, by the Aero Star Eco Hybrid bus, which features a new hybrid drive that consumes little fuel and is very quiet.



Propulsion is provided by a powerful electric motor that draws its electricity from a battery and a generator, which is powered by a small diesel engine and runs in an economical low-rpm range. Whenever battery recharging isn't needed, the combustion engine is switched off. As a result, the hybrid bus can be driven in zero-emission electric mode for a while.

### Highly Streamlined E-Class Coupe



The new E-Class coupe combines emotion and efficiency. Boasting a classic coupe profile that dispenses with a B-pillar, the two-door model offers a particularly sporty interpretation of the dynamic design of the new E-Class. But the following number proves that the car is more than just good-looking: With a  $C_d$  value of 0.24, the E 250 CDI BlueEFFICIENCY is the world's most aerodynamically efficient series production car. The coupe also plays a pioneering role in terms of drive systems, thanks to its new direct-injection diesel and gasoline engines. The line-up includes two new four-cylinder engines that consume up to 17 percent less fuel while offering significantly higher power and torque. The best example is the E 250 CDI BlueEFFICIENCY coupe, which consumes 5.1 liters per 100 kilometers. That corresponds to  $CO_2$  emissions of 135 grams per kilometer.

### The New Gullwing from Mercedes-Benz

For the first time in its history, AMG – the Mercedes-Benz performance car brand – has unveiled a vehicle developed in house: the Mercedes-Benz SLS AMG.

The super sports car features an impressive and unique technology package: an aluminum body with gullwing doors, a top-performance AMG 6.3-liter front-mid V8 engine with 420 kW (571 hp) and dry sump lubrication, seven-speed dual-clutch transmission in transaxle configuration, and a sports chassis with aluminum parallelogram suspension. The car's ideal weight distribution between the front and rear axles (48 to 52 percent respectively) and its low center of gravity emphasize the uncompromising sports car concept. The chassis and body are made entirely of aluminum, ensuring significant weight savings compared to the traditional steel construction – the car's curb weight is only 1,620 kilograms. The exclusive aluminum spaceframe combines intelligent, lightweight design with high strength to deliver outstanding handling. It goes without saying that the SLS AMG satisfies all safety requirements and all expectations when it comes to the high-quality body typical of Mercedes-Benz. The car will be undergoing intensive vehicle testing until the end of 2009; its market launch is planned for spring 2010.

### The F-CELL Roadster and the Trainees: High Tech and Heritage

More than 150 trainees at the Mercedes-Benz plant in Sindelfingen, Germany, collaborated with students for about a year on an unprecedented project – the F-CELL Roadster. The eye-catching vehicle is unique because it combines the latest technologies with the heritage of automaking. The primary aim of the project was practical integration of alternative drives into the training of tomorrow's automotive industry professionals.

Reminiscent of the Benz Patent Motor Car of 1886, the F-CELL Roadster is equipped with large, spoked wheels. The vehicle also features styling elements from a wide range of vehicle eras. These include the carbon shell seats with hand-stitched leather upholstery and the distinctive, Formula 1-style fiberglass nose.

The vehicle is steered by means of a joystick and drive-by-wire. Power is provided by a zero-emission fuel cell system, which is mounted at the rear. With a power output of 1.2 kilowatts, the white roadster has a maximum speed of 25 kilometers per hour and a range of up to 350 kilometers.



#### WEB TIP

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