

Mercedes-Benz TecDay E-Drive

Press Information

From city car to van: the world's most versatile electric fleet

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Locally emission-free electric vehicles are a cornerstone of the Mercedes-Benz strategy for sustainable mobility. The Stuttgart-based premium manufacturer underlines its ambition to lead in this segment with three electric vehicles which are already produced under series-production conditions and offer full everyday practicality: the new A-Class E-CELL, the B-Class F-CELL and the Vito E-CELL van. The smart fortwo electric drive, which has been produced in series since November 2009, completes this unique product portfolio. The line-up is based on the E-Drive modular system, which allows identical parts to be used in a wide range of different vehicles. At the same time, the inventor of the motor car is pressing ahead with development in core areas of expertise such as battery technology. Furthermore, because electric cars require suitable conditions to enable everyday use, the company is fully dedicated to improving all relevant aspects of emission-free driving: from vehicle technology to cross-industry infrastructure and mobility projects.

"Customer benefit is our top priority when developing sophisticated electric mobility," says Dr Thomas Weber, member of the Board of Management of Daimler AG with responsibility for Group Research and Mercedes-Benz Cars Development. "The success of e-mobility stands and falls on customer acceptance, which essentially depends on three factors: everyday practicality combined with driving enjoyment, economic efficiency, and a charging and refuelling infrastructure for power and hydrogen. This is why we adopt a comprehensive approach to this topic, the aim being to offer a convincing, complete solution."

For Mercedes-Benz, customer focus also means electric cars which feature all of the brand's hallmark traits, including comfort and safety as well as

superior performance and exemplary practicality. The Mercedes engineers combine these "classic" product benefits with their know-how in the domain of electric mobility accumulated over many decades. Dr Weber: "During the almost 125-year history of our company, we have acquired a great deal of knowledge and experience in the field of electric vehicles – either with battery or fuel cell. On this basis, we have already been able to put two electric cars offering full everyday practicality onto the road in the shape of the smart fortwo electric drive and the B-Class F-CELL. The new A-Class E-CELL, which has been in production since October, is the logical next step in this development." Page 2

A-Class E-CELL: electric car offering maximum customer benefit

The new A-Class E-CELL is a prime example of a customer-oriented vehicle concept. This five-seater model combines everyday practicality and family-friendly design with state-of-the-art safety technology and superior driving performance. It is based on the current A-Class and, just like this model, offers a generously-sized and versatile interior and boot space – with not even a hint of compromise when it comes to spaciousness and variability. That is mainly because the two highly efficient lithium-ion batteries, which together have a range of more than 200 km (NEDC), are safely housed in the underbody to save space. Quiet and locally emission-free drive is provided by a 70 kW (95 hp) electric motor with a high torque of 290 Nm.

The 500 new A-Class E-CELL models are being produced in Rastatt, Germany and will be leased to selected customers in several European countries – including Germany, France and the Netherlands – as part of a full-service rental package. The company has delivered further exciting prospects for environmentally-compatible electric mobility – on four or two wheels – in the form of the Concept BlueZERO, the super-sporty technology platform SLS AMG E-CELL, and the innovative smart scooter and ebike concepts.

E-Drive modular system for maximum efficiency

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Thanks to its E-Drive modular system, Mercedes-Benz can bring standard-production electric cars to market quickly and achieve optimum cost efficiency. This intelligent solution makes it possible to use a high degree of identical parts for a wide range of electric vehicles with battery or fuel cell. The company-wide use of components saves on development time and costs and ensures more "streamlined" production, meaning that, in principle, the E-Drive modular system delivers the same advantages as the Mercedes-Benz hybrid modular system, which covers a wide range of vehicles and outputs.

Versatile components are suitable for different drive configurations and have already been installed in the Mercedes-Benz and smart electric vehicles produced on a small scale. By way of example, the new A-Class E-CELL is powered by the same electric motor as the B-Class F-CELL with fuel cell. As for batteries, the A-Class E-CELL uses the same technology that has already proven so successful in the smart fortwo electric drive: the electric Mercedes is equipped with two of these powerful lithium-ion batteries with a storage capacity of 36 kWh. The intelligent charge-management system for the new A-Class E-CELL, featuring SmartCharge Communication, is likewise based on the tried-and-trusted technology used in the smart fortwo electric drive.

Powerful lithium-ion batteries

Together with its partners, Daimler is forging ahead with the development of sophisticated lithium-ion batteries. This work forms the basis of customised solutions for its unique product portfolio, which covers practically all mobility requirements. Daimler benefits here from the expertise it has accumulated through many years of research work. To date the company has filed more than 600 patents for battery-powered vehicles – and over 230 of these involve lithium-ion technology. Targeted cooperation with expert partners ensures that the battery systems optimally meet all vehicle- and application-specific requirements.

In order to ensure widespread customer acceptance and quickly increase demand for electric vehicles, Daimler is working together with other car manufacturers and energy suppliers to standardise the connector and the communications interface between the vehicle and the charging infrastructure. The company is also heavily involved in a number of projects and partnerships aimed at developing an extensive infrastructure of charging stations and hydrogen refuelling points. Mercedes-Benz and smart electric vehicles are already used successfully in e-mobility projects in Germany, France, Italy, Spain, the UK and Switzerland. Further markets include Belgium, the Netherlands, Portugal, Denmark and the Czech Republic as well as North America (USA and Canada). What's more, in the "H2-Mobility" initiative, Daimler has joined forces with energy suppliers and the mineral oil industry to develop an extensive hydrogen infrastructure in Germany.

Multi-lane road to the future

"Electric mobility is becoming an increasingly large part of our daily lives. And we are very well set up for this," says Dr Thomas Weber. "But we also realise that electric mobility will not come at the push of a button. This is why, for our current and future cars, we have chosen an intelligent drive mix which also includes one other vital ingredient: excitement. That's because the car – and in particular the premium car – will remain what it always has been for us: a highly emotive product."

Customers want safe, comfortable and powerful vehicles that are also extremely efficient and environmentally compatible. The central challenge is to make motor vehicles even more efficient and clean without compromising on comfort or safety. By developing optimised vehicles with high-tech internal combustion engine, hybrid drives with a choice of output ratings and electric vehicles with battery or fuel cell, Mercedes-Benz is consciously taking a multi-lane route to ever more environmentally compatible and

eventually zero-emission vehicles. In this way it is possible to provide sustainable mobility with great variety at a high level.

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