

DAIMLER

Frankfurt Auto Show Investor Conference 2011



Prof. Dr.-Ing. Thomas Weber

Member of the Board of Management, Group Research & Mercedes-Benz Cars Development

Our world is changing – Individual mobility is, too

Globalization

- Global networks
- Worldwide cooperation
- Shifting of markets
- Increasing competition

Shortage of resources

- Shortage of natural resources
- Demand for alternative energy sources
- ...

Change of values

- “Green“ awareness
- Individualization
- Additional forms of mobility
- New communication channels



Legislation

- National emission regulations
- National safety ratings
- Customs & trade restrictions
- Local production

Technology

- Powertrain innovations
- New materials and procedures
- ...

Urbanization

- Mega-Cities
- Shortage of space
- New mobility requirements
- Areas with restricted access



Daimler R&D – Our key success factors

Ambition to Lead
Our refined Brand Goals

Superior Products
Sustainability in all Aspects

Operational Excellence
Efficient R&D Structures

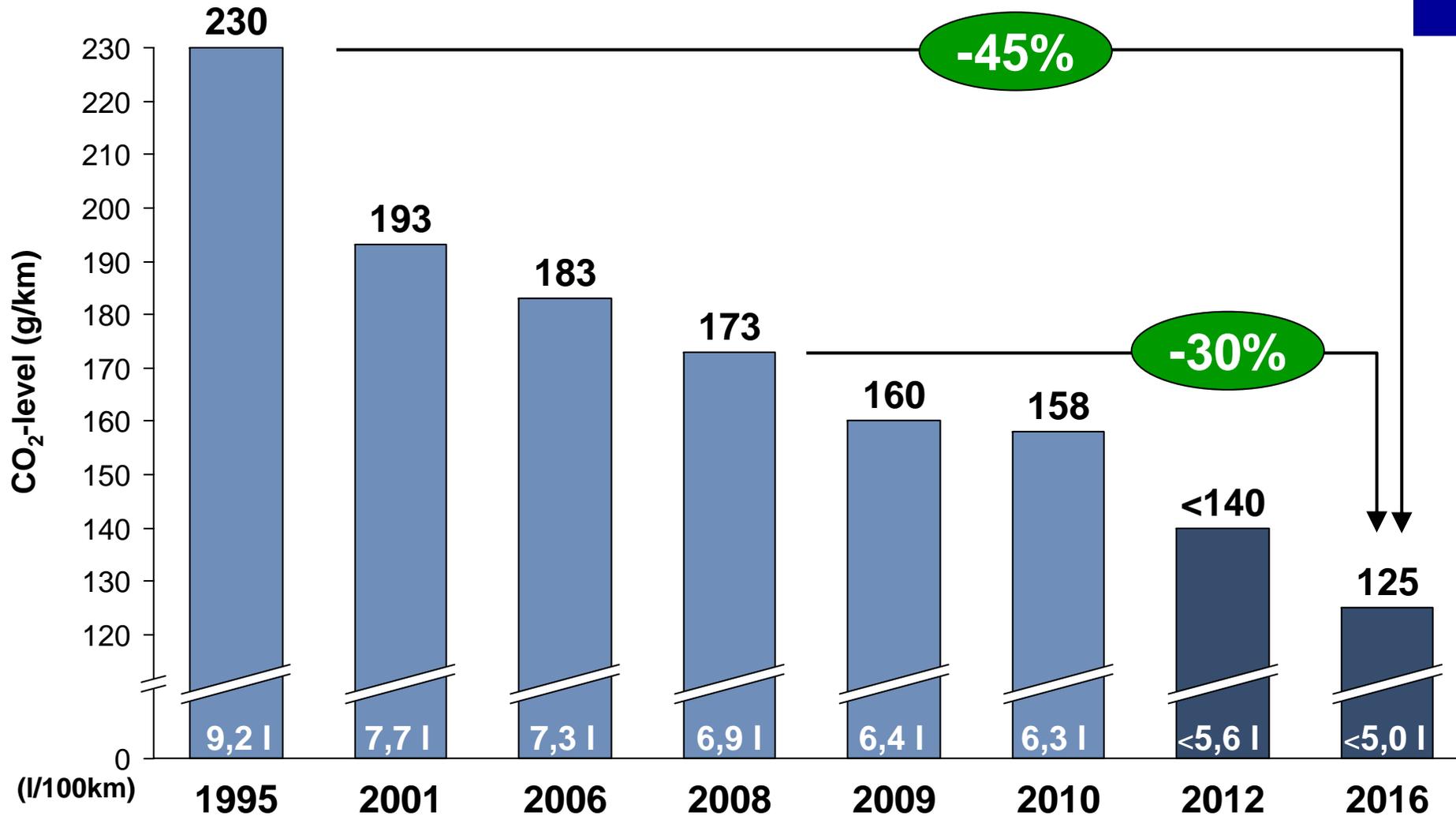
Innovation and Technology
Ahead of the Crowd

Strategic Investments & Cooperations
Green Leadership

Ambition to Lead – Our development strategy is based on our refined brand goals



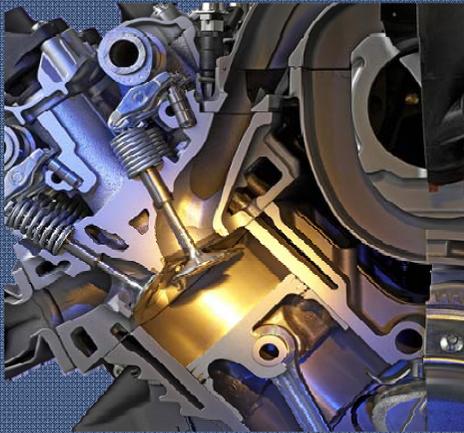
CO₂ Emissions – Significant reduction of ECE fleet consumption, we are on our way to exceed regulatory targets



Sustainability – Our roadmap to emission-free mobility

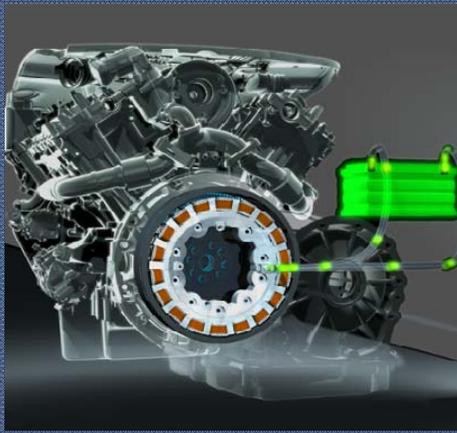
Optimization of vehicles with high-tech combustion engines

CDI, CGI, BlueTEC, DIESOTTO



Further increase of efficiency through hybridization

HYBRID, BlueTEC HYBRID, Plug-in HYBRID



Locally emission-free electric vehicles with battery and fuel cell

E-CELL, F-CELL, E-CELL PLUS



Clean fuels for combustion engines

Energy sources for future mobility



BlueEfficiency to reduce Emissions – Optimization of all relevant components proving to be effective

The image features a silver Mercedes-Benz C220 CDI BE sedan in a wind tunnel. The car is positioned centrally, with its rear and side profile visible. The license plate reads 'S OR 8026'. Surrounding the car are several callout boxes, each containing an image of a specific component and a label. The components include: Tires, Gear Shift Indicator, Direct Injection, A/C Compressor, Ventilator Cover, Power Steering, Fuel Pump, Generator, ECO Start-Stop-Function, Aerodynamics, High-tech Powertrains, and Lightweight Construction and Materials. At the bottom of the image, a dark blue banner contains the car's model and its performance metrics.

Tires

Gear Shift Indicator

Direct Injection

A/C Compressor

Ventilator Cover

Power Steering

Fuel Pump

Generator

ECO Start-Stop-Function

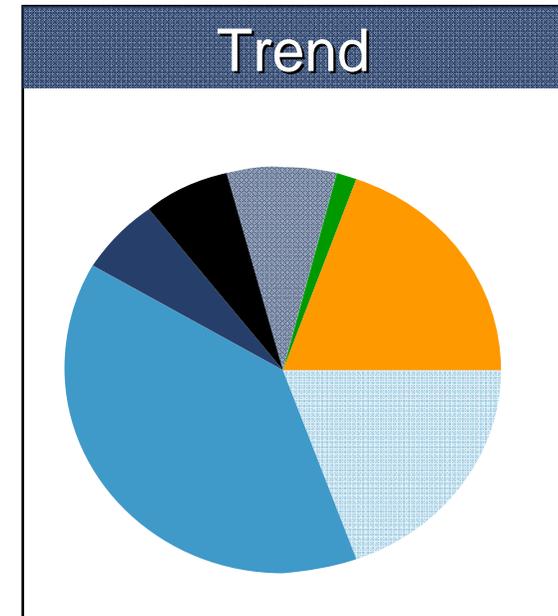
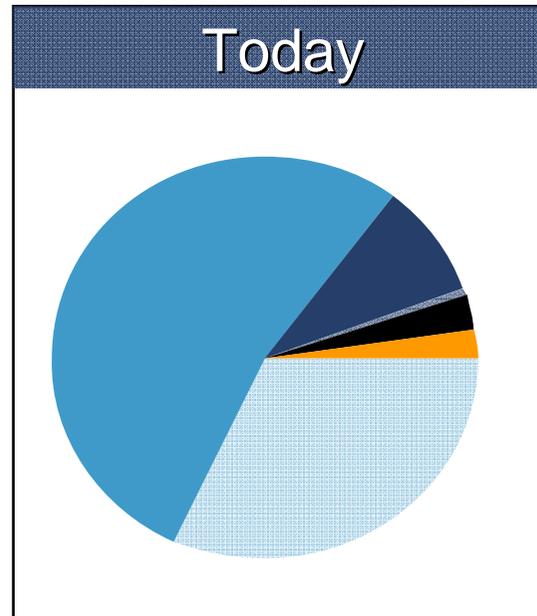
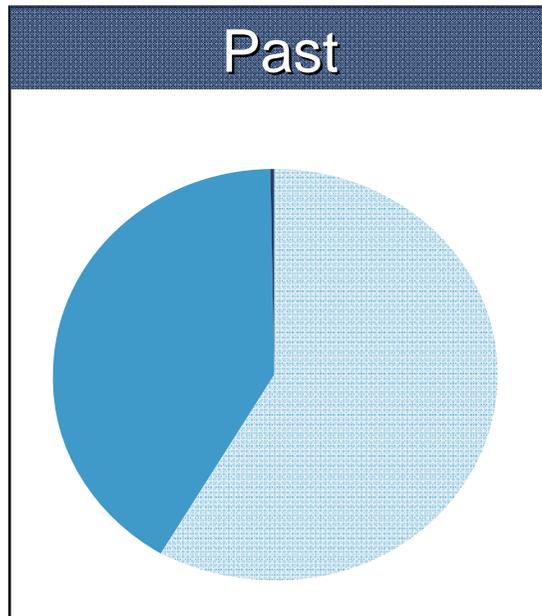
Aerodynamics

High-tech Powertrains

Lightweight Construction and Materials

C220 CDI BE: 4,4 l/100km; 117 g CO₂/km

Optimization – Future trend toward a target-oriented body-in-white material mix



steel:



soft



high strength



adv. high strength



ultra high strength



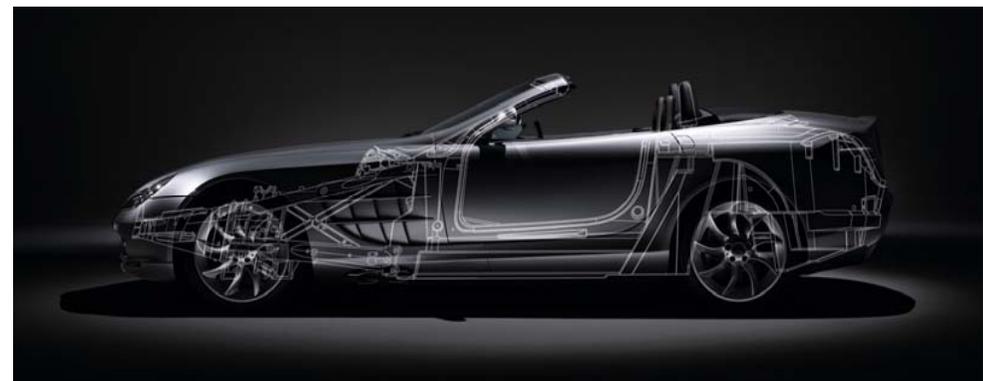
warm forming



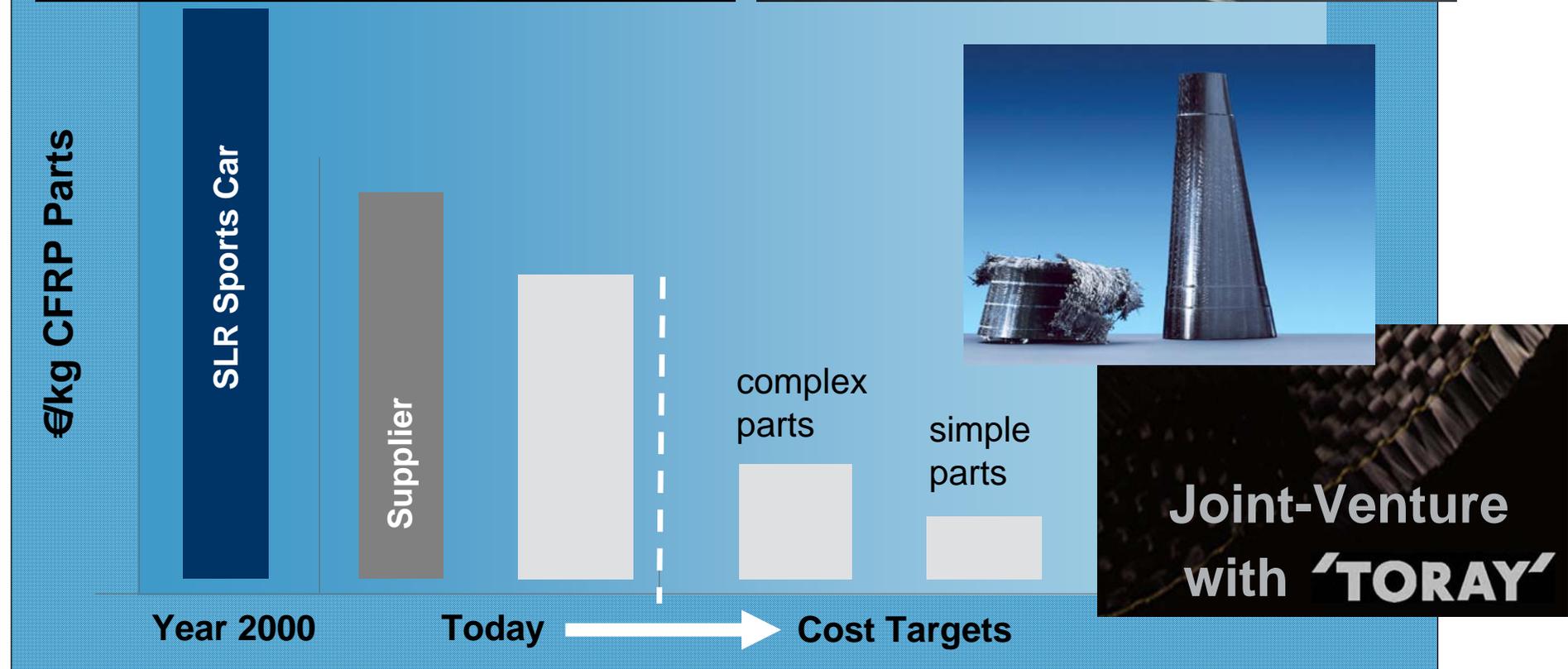
aluminum



plastic



Carbon Fiber – Cost reduction through strategic cooperation



Hybridization – Electrification safeguards economic sustainability of large premium cars

2009



ML450 HYBRID :
7,7 l/100km (182 g/km)

2009



S400 HYBRID:
7,9 l/100km (186 g/km)

E300 HYBRID :
4,4 l/100km (<120 g/km)

2011



S500 Plug-In- HYBRID :
3,2 l/100km (74 g/km)

Next Gen.
S-Class

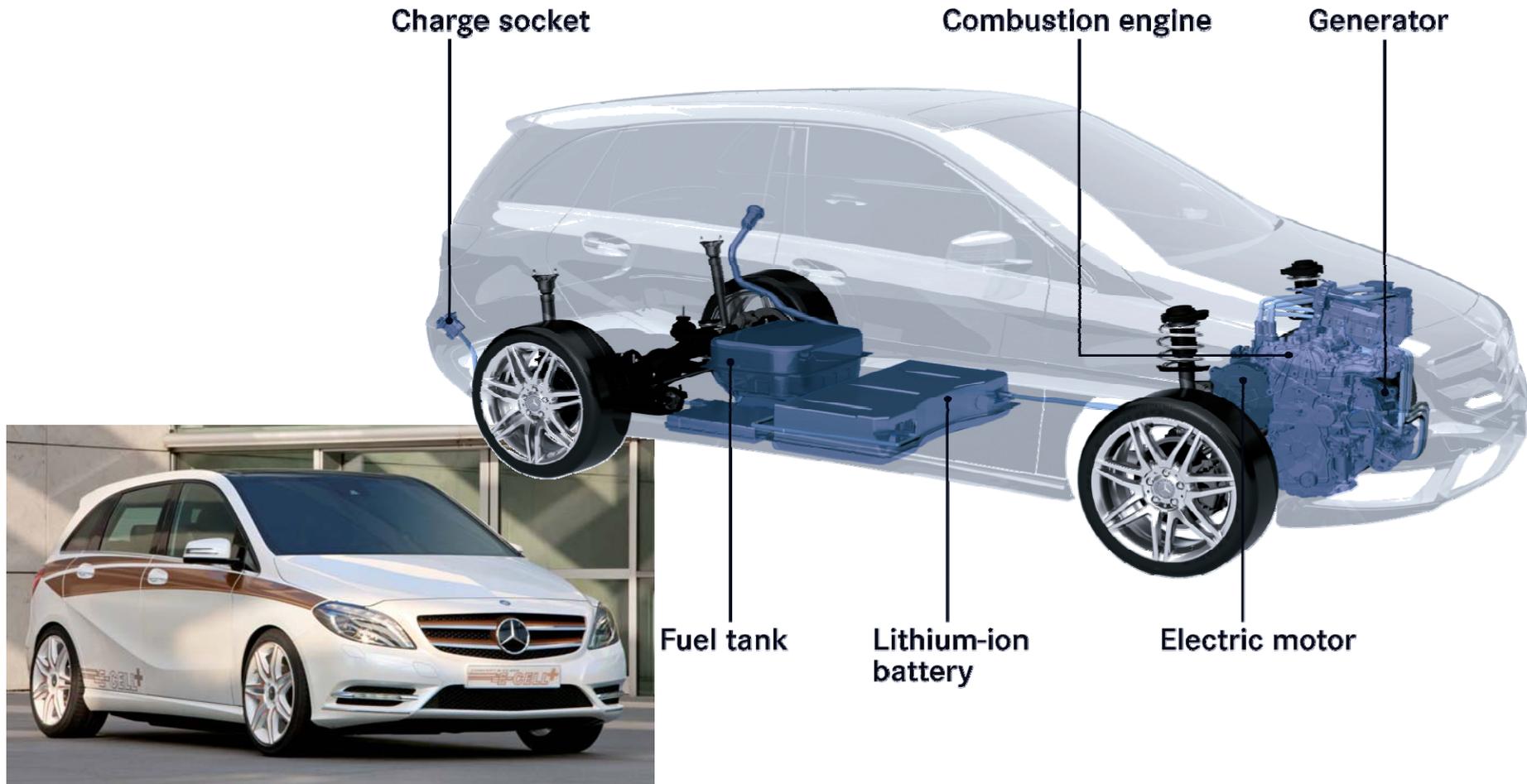


2009

2011

Modular Mercedes-Benz Hybrid-concept for maximum customer benefit

Concept B-Class E-CELL PLUS



- 3-cyl. turbo engine, optimized as extender
- two-gear REX-transmission
- 2 highly efficient e-motors

Range: over 600 km
Electrical Range: 100 km
Emissions: 32 g CO₂ / km

Zero-Emission Vehicles – Leading by experience

EVs with Battery



Generation 1 : Test Fleet
smart fortwo electric drive in London
2007

Generation 2: Series Production
Customer fleet smart electric drive
& A-Class E-CELL
2009/10

Generation 3: Mass Production
smart und MB electric drive
starting 2012

EVs with Fuel Cell



Generation 1: Worldwide Test Fleet
A-Class F-CELL
2004

Generation 2: Series Production
Worldwide Test fleet B-Class F-CELL
2010

Generation 3: Mass Production
Mercedes-Benz F-CELL
starting 2014

Modular E-Drive components allow for synergies
and top quality

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Electric Vehicles – With the broadest portfolio of series production EVs we lead the competition

Mercedes-Benz
A-Class E-CELL

smart fortwo
electric drive

Mercedes-Benz
SLS AMG E-CELL

Mercedes-Benz
B-Class F-CELL

Mercedes-Benz
Vito E-CELL



E-Motor:
70 kW, 290 Nm
in series production

E-Motor:
30 kW, 120 Nm
in series production
>2.000 vehicles'
in customers hands
since 2009

4 synchronous
E-Motors:
392 kW, 880 Nm
Market entry in
2013

E-Motor:
100 kW, 290 Nm
in series production
200 vehicles
in customers hands
since 2010

E-Motor:
60 kW, 280 Nm
in series production

Driving Range

250km

140km

200km

400km

130km



F-CELL World Drive

START: 29.01.2011 | ENDE: ANFANG JUNI



Mercedes-Benz



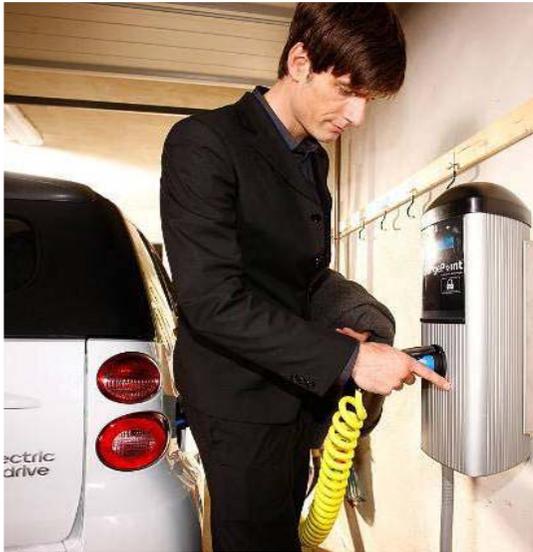
3 B-Class F-CELL, 125 days, 30000km,
4 continents and 14 countries ...

... have proven that Mercedes-Benz fuel-cell
technology is ready for series production!



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Infrastructure – Joint efforts to bring e-mobility to the road, to standardize and build up infrastructure



Cooperation among all stakeholders

OEMs

Suppliers &
Service providers

Scientific
Community

Government

Strengthening Key Know-How – Cooperation with BOSCH to develop and produce traction electric motors



Traction electric motor
production in JV with



Integrated electric motor
(e.g., hybrids) in-house
production in Berlin

We control all key technological and cost aspects

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High-Voltage Batteries – Integrated battery production in Kamenz, Germany enables competitive advantages



Business and employment opportunities:

OEMs

Supplier & engineering
service provider

Chemical
industry

Logistics

Plant / process
engineering

Electric /
electronics

Scientific
community



electric drive

S EV 4205

Mobility needs are changing – so are we! *Examples*



Mercedes-Benz Rent



car2go



car2gether



Bus Rapid Transit



FleetBoard



CharterWay

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