

DAIMLERCHRYSLER

Research, Engineering and Design North America Inc.

DaimlerChrysler Fuel Cell Activities

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May 18, 2007
Berkeley, CA

DaimlerChrysler's Road to Sustainable Mobility

today

tomorrow

Fuel Cell Technology

Hybrid Vehicles

Alternative Fuels

Improvement of Conventional Fuels

Optimization of Combustion Engines



Motivation to Develop Fuel Cells and Hydrogen Technologies

■ Why fuel cell technology as alternative powertrain?

- Higher efficiency than ICE
- Zero emission in terms of GHG and limited emissions (NO_x , ...)
- High torque leads to better acceleration
- Low noise (especially important in urban areas)

■ Why hydrogen as an alternative fuel?

- Diversity of feedstock, i.e. provide a secure energy supply
- Reduction of GHG emission, i.e. increasing share of renewable energy sources

Worldwide leading Experiences with DaimlerChrysler Fuel Cell Vehicles

60 F-Cell vehicles in customer hands



787.445 mi
37.520 h

36 Buses (Citaro)
Europe, Australia, China



1.117.772 mi
120.147 h

3 Sprinter with UPS
Europe, USA

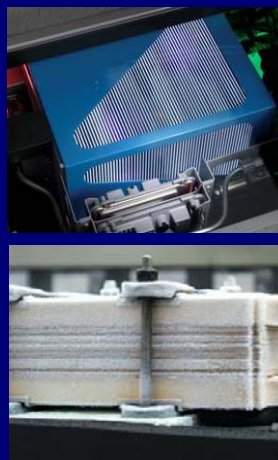


39.763 mi
2.335 h

*Data April 2007

Since 2005: 100 fuel cell vehicles in daily operation.
First F-Cell vehicle surpassed 100.000 km / 2000 h in January 2007.

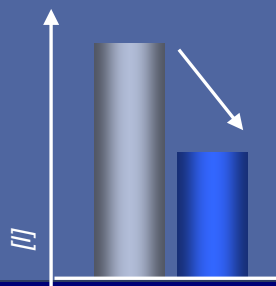
Fuel cell drive: Sustainable mobility of the future



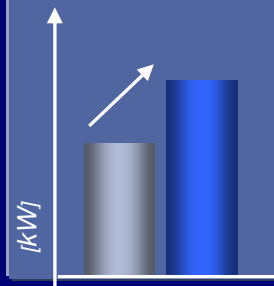
Next generation fuel cell drive:

- Power: 85 kW / 350 Nm
- Lithium-Ion battery
- Range: 400 km
- Freeze start down to - 25°C

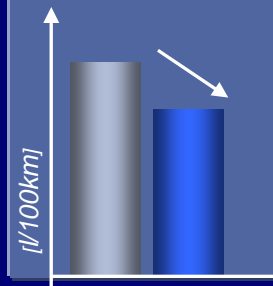
Size
- 40%*



Power
+30%*



Consumption
- 16%*



*Compared to A-Class F-Cell

Challenges for Fuel Cell Technology

100 Vehicles over 2 years in operation:
Reliable stacks, but improvements needed in 3 areas.

Technology

- Power Density
- Cooling (FC Power)
- H₂-Storage (Range)
- Robustness
- Durability
- Cold start, freezing

Infrastructure

- Technologically mature
- Economically viable
- Available in time
- Sufficient number of stations

Cost

- Fuel Cell System & Stack
- Electric Drive
- H₂-Tank
- Infrastructure
- Cost of H₂

