

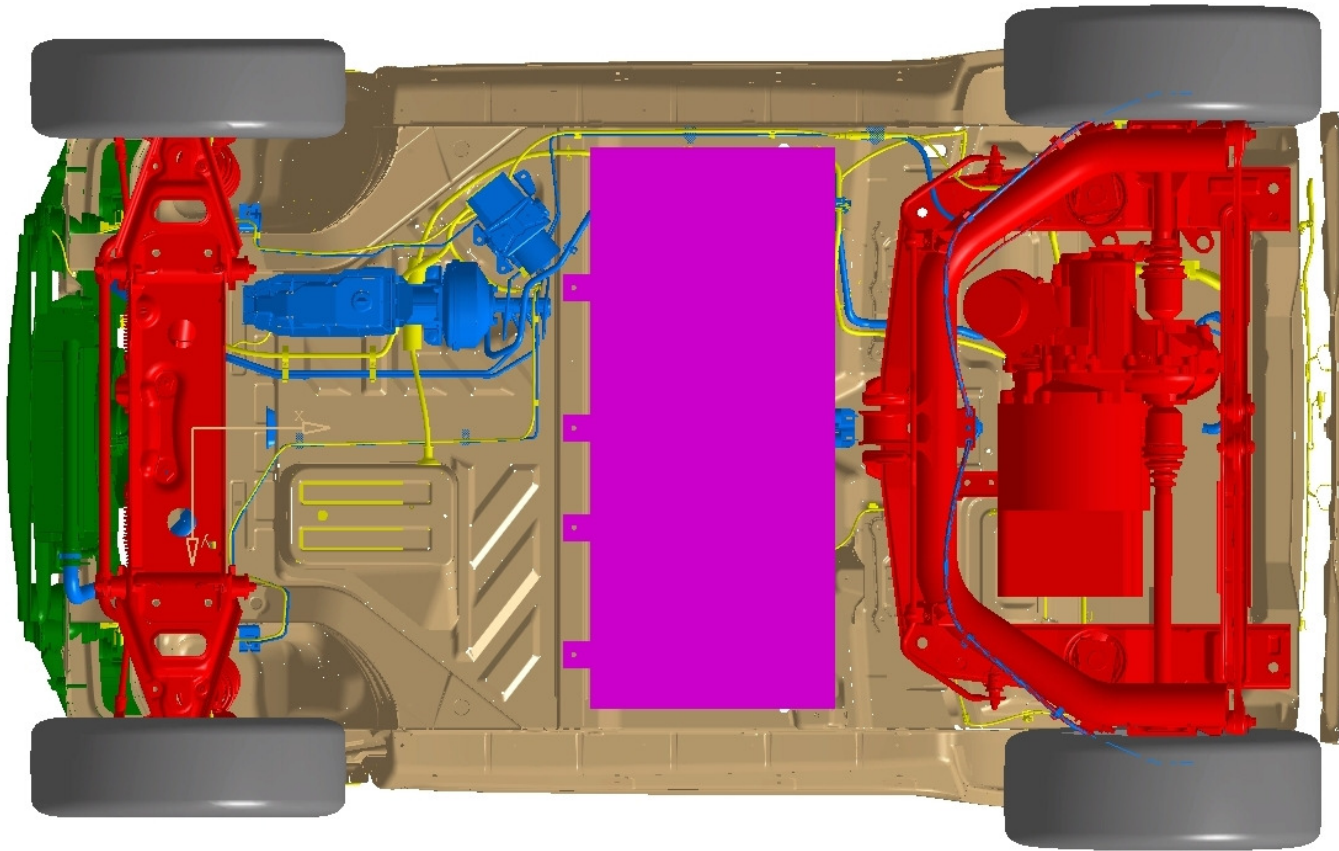


>> smart fortwo electric drive (ed)

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smart fortwo electric drive package



Electric power train

Modified drive train in standard architecture

- > modified smart gearbox / final drive: (blocked in 2nd gear, no gear shift)
- > permanent magnet motor (30 kW, 120 Nm)
- > fully integrated electric power unit
- > water cabin heater system (3 kW)
- > standard smart rear suspension with reinforced springs

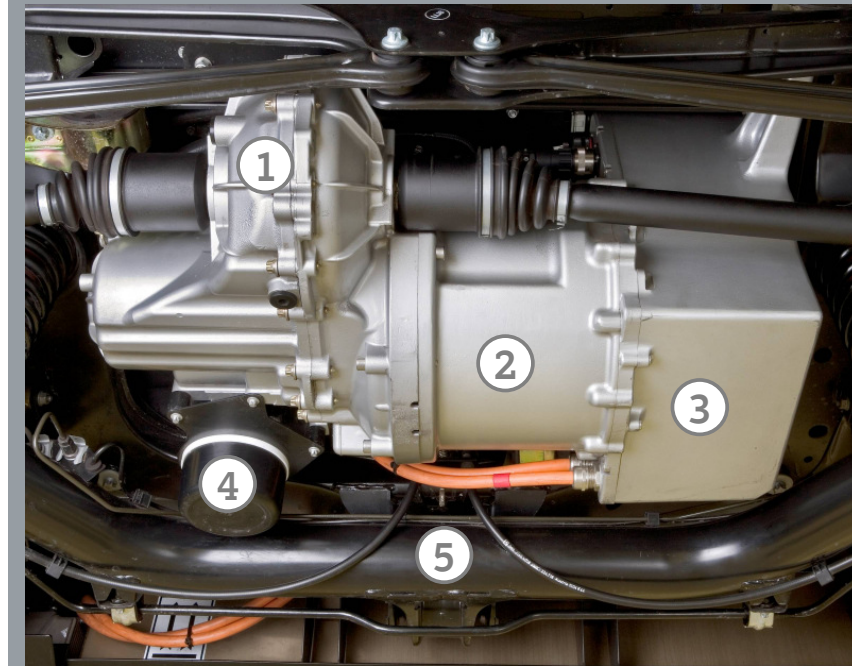
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Electric motor ancillaries

- > water cabin heater ①
- > battery cooling fan ②
- > onboard battery charger ③
- > optional A/C compressor



Battery

Heavy-duty battery operates at high temperatures

- > **ZEBRA battery with steel tray:
Sodium-Nickel-Chloride
approx. 15.5 kWh / 300 V**
- > **range: 65 mls in EUDC,
more-than-adequate performance**
- > **small-volume production**

1



Instruments & handling

- > instrumentation:
State-Of-Charge meter (right)
on top of dashboard
- > emergency cut-off switch
- > gear shift lever: D-N-R
- > charge socket in filler door



Performance

Performance and range –
designed for urban driving

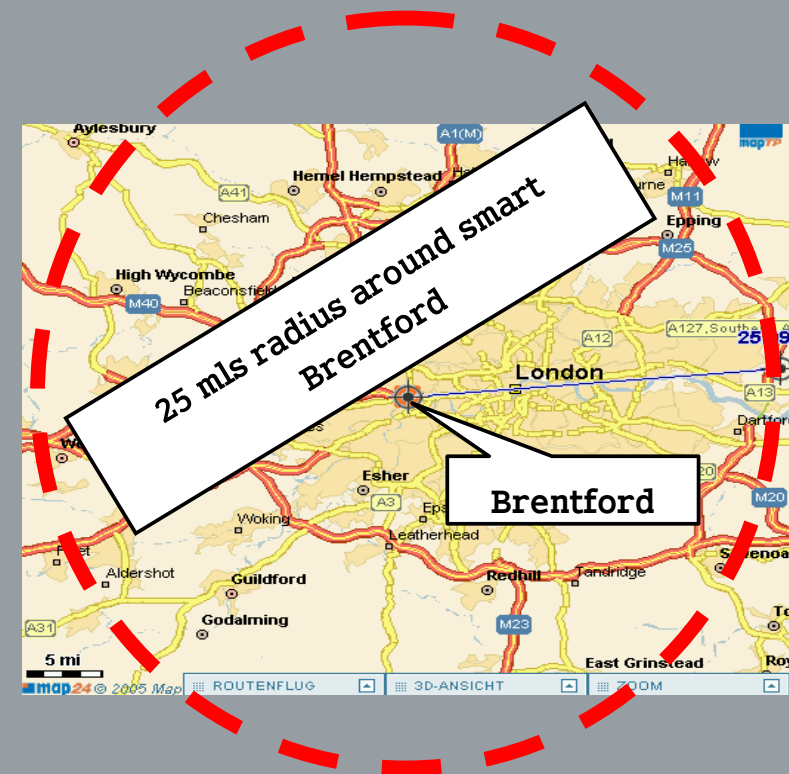
- > max power: 30 kW
- > accel. (0-60 km/h): 5.7 sec.
- > max. speed: 65 mph
- > Range: 65 mls in EUDC



smart ev project – kick-off

London is the first place for the smart ed market trial on account of:

- > high density of population and infrastructure
- > high awareness of CO₂ reduction challenge
- > severe noise and emission pollution
- > significant traffic density and parking issues
- > congestion charges
- > multiple customer approaches to DCUK for "green" fleet solutions



Fleet customer benefits

- > exemption from parking charges in certain locations
- > free electricity available in some municipal parking lots
- > exemption from road fund licence
- > exemption from London congestion charge
- > tax incentives for driving electric vehicles
- > grants for installation of charging infrastructure
- > grants for renewable energy hardware installation
- > reduction of corporate carbon footprint

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Perfect fleet management system integration

- > high-tech infrastructure available generating record of
 - user name and billing number
 - parking duration
 - electricity consumption
- > under test by 4 London boroughs
- > meets "streetscape" requirements
- > car sharing system compatible
- > communication with fleet back office
- > management systems with full vehicle data exchange



Benefits for the city

- > pure zero emission vehicle emitting no pollutants at all
- > London pilot customers will use "green" electricity
- > very low noise emission at city speed
- > improved quality of living
- > compact vehicle size allows use of "dead" parking spaces with charging infrastructure



Conclusion

- > London pilot over 4 years – will lead to practical knowledge about customer behaviour and requirements
- > high demand for electric drive pilot programs also in other big European cities
- > further pilot programs in planning (Berlin, Paris.....)
- > Participation in e-mobility Berlin in cooperation with RWE

> ... to be continued!

