

EVs – you have not seen anything yet...

By Andrew Marsh FIMI,

Engineering Director,  ezi methods

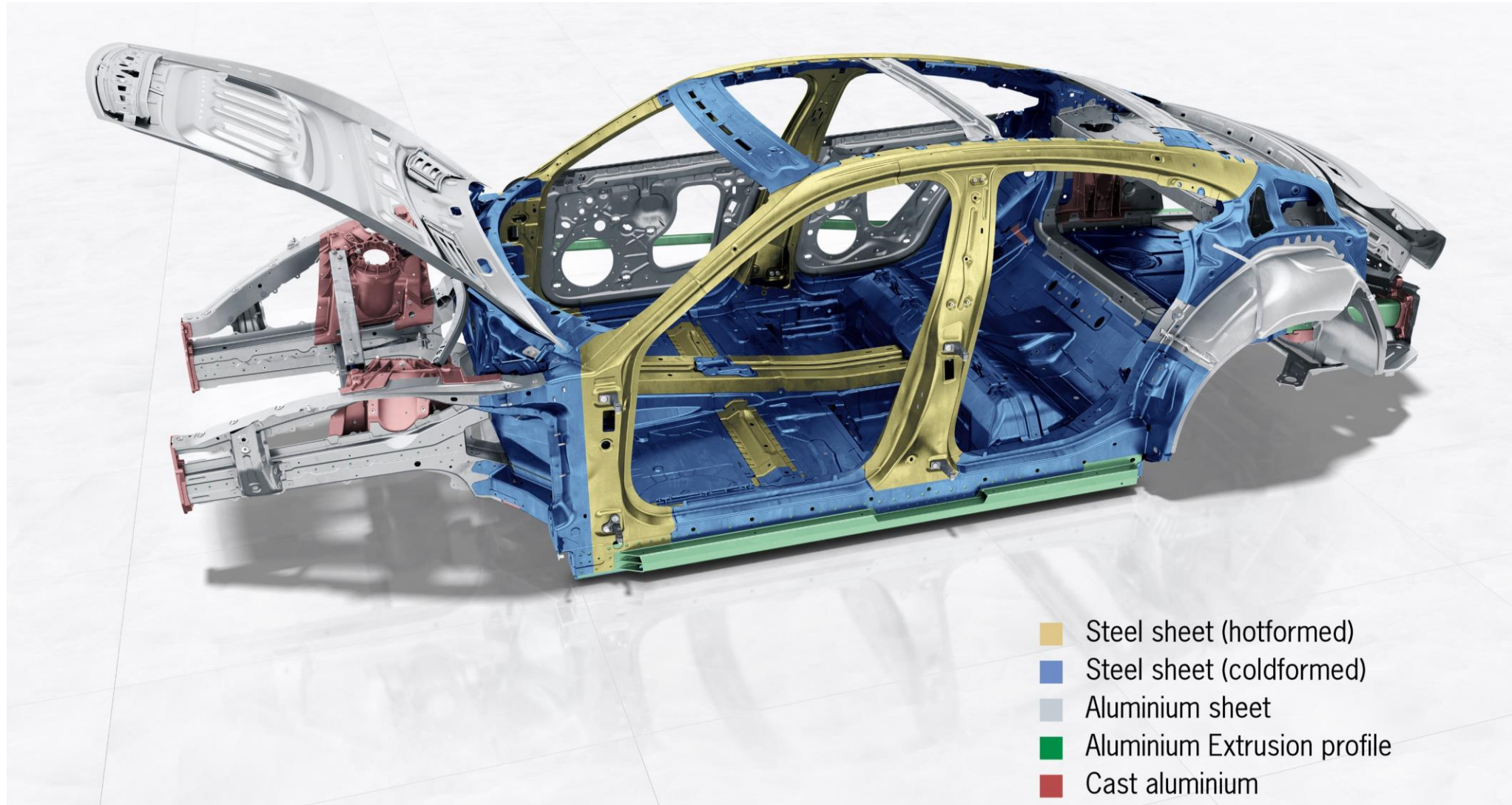


What we are going to see

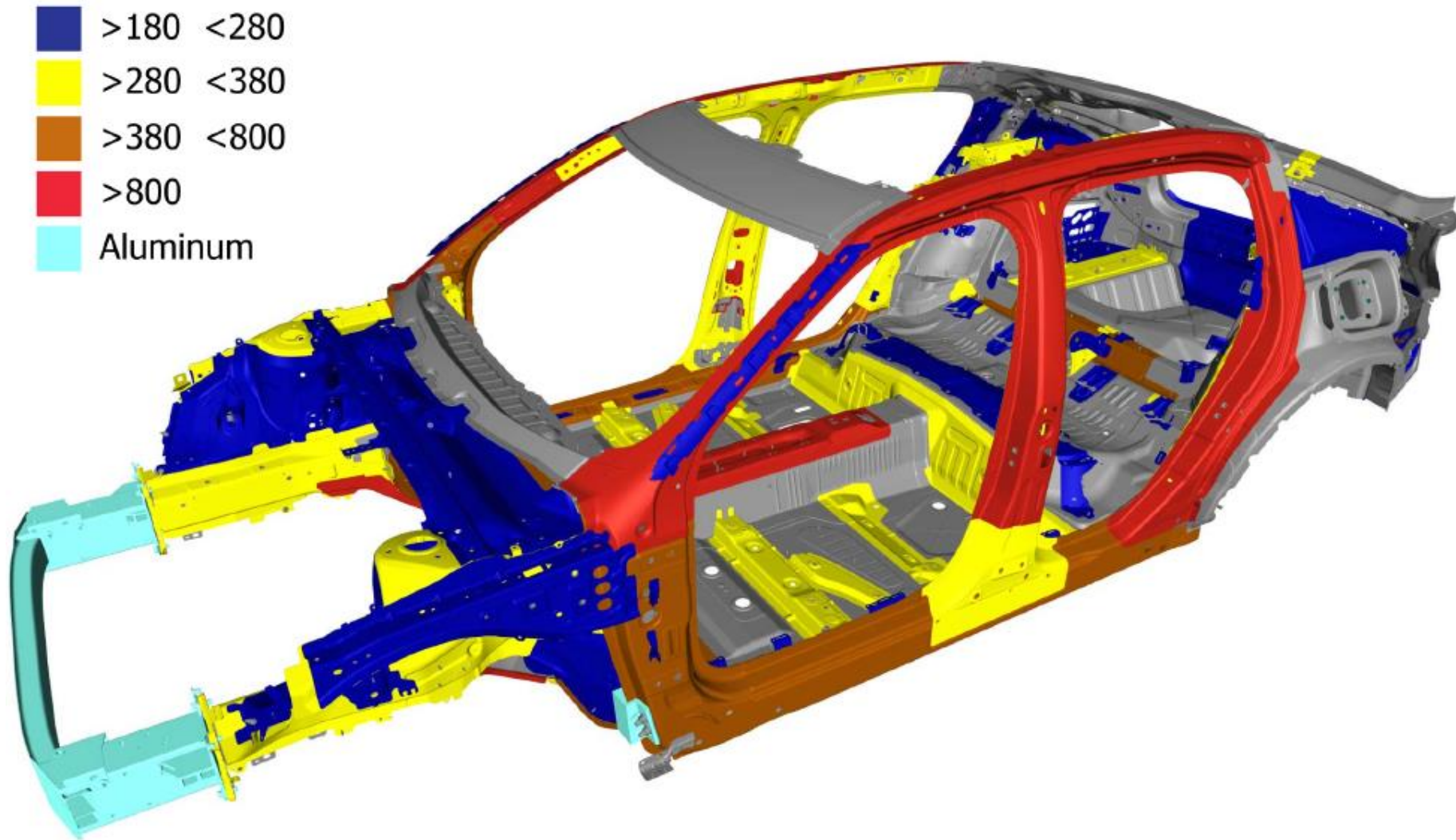
1. The core protection
2. The headache: Power
3. The challenge: HGV



Any material, any combination: Premium



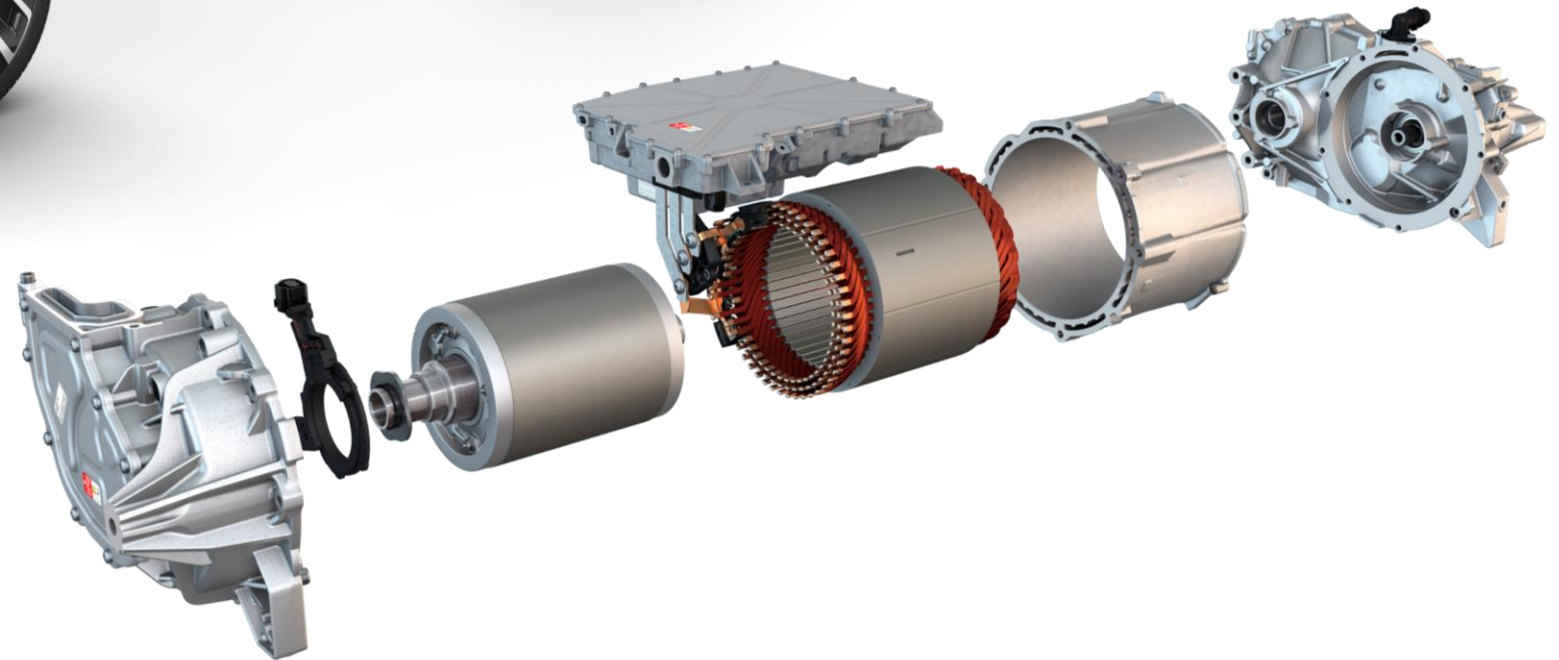
Any material, any combination: Lower cost



Housing new major components



Housing new major components



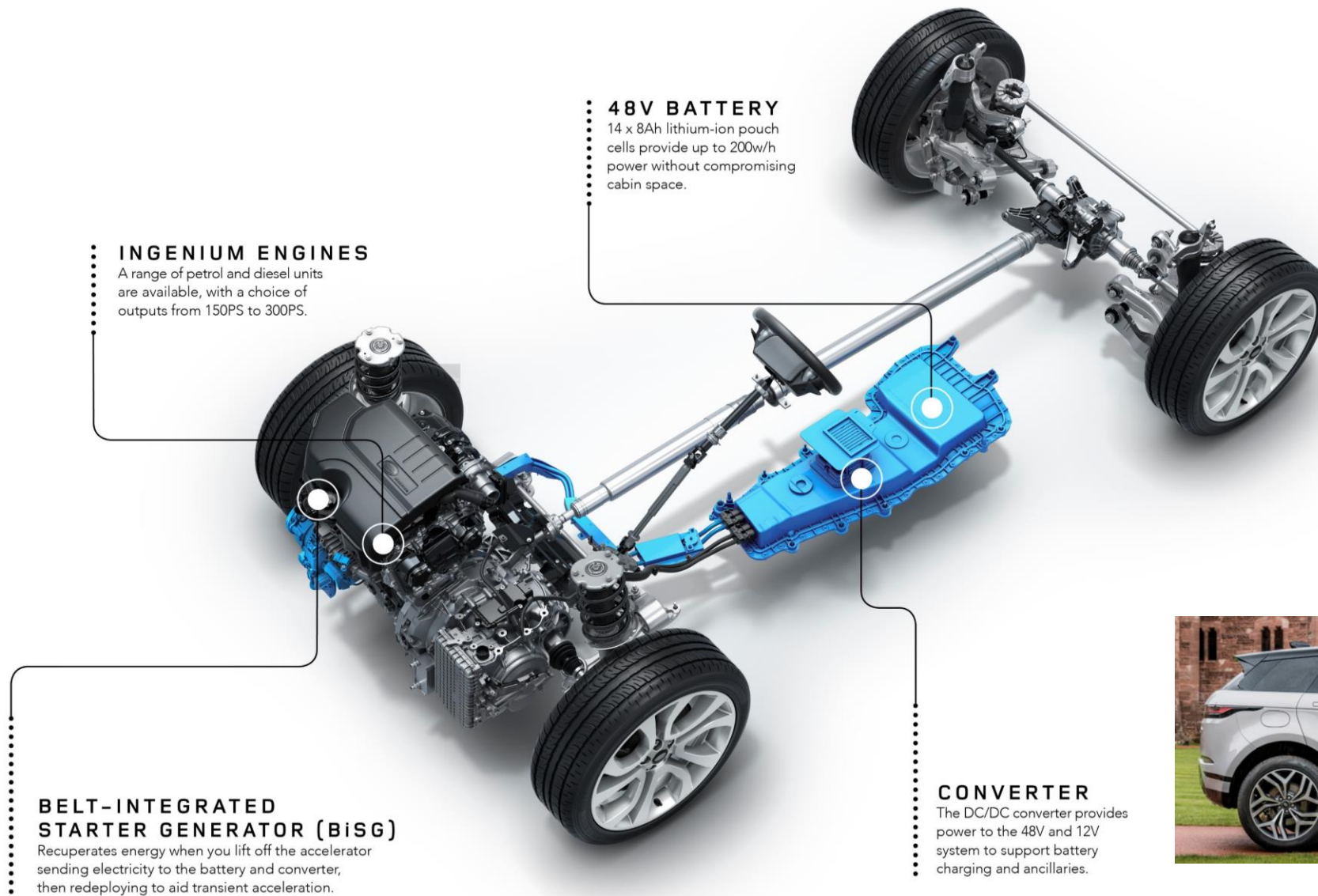
The headache: **Power**

Target: 95 g/km CO₂

Tax: €95 / g of CO₂ / vehicle



1 to 2 kWh: Mild Electric Hybrid (MHEV)



5 to 30 kWh: Plug-in Hybrid (PHEV)

INGENIUM PETROL ENGINE

Lightweight 1.5-litre, 3-cylinder turbocharged engine developing 147kW (200PS) of power and 280Nm of peak torque.

BiSG INVERTER

Transforms the current between AC and DC to control the BiSG.

ELECTRIC MOTOR

Electric Rear Axle Drive system with integrated gearbox and inverter, producing 80kW (108PS) of power and 260Nm of torque.

BATTERY

11.3kWh lithium-ion battery mounted under the floor to maximise range without impacting interior space.

BELT-INTEGRATED STARTER GENERATOR (BiSG)

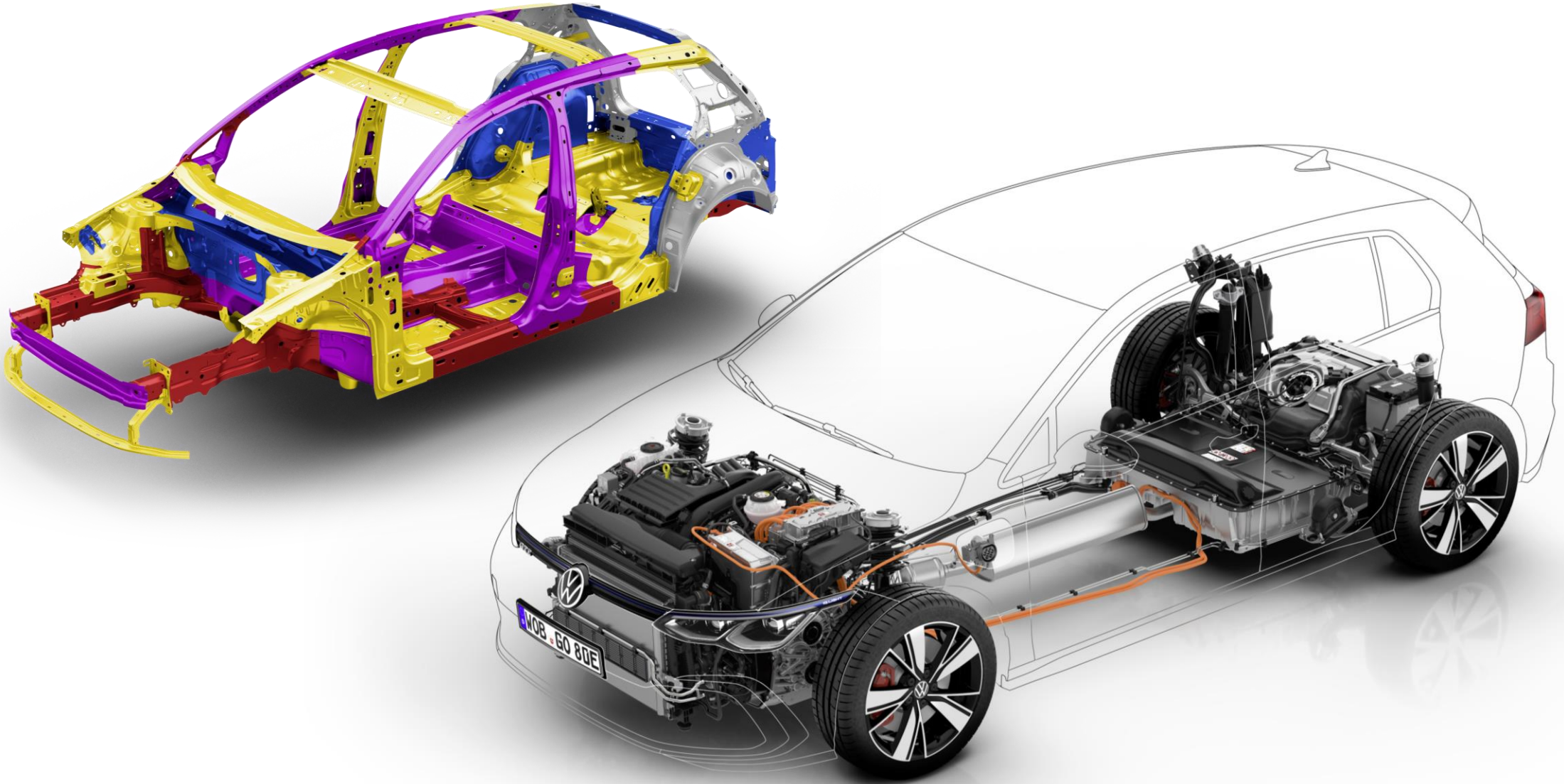
Seamlessly starts the engine and supplies power to the high voltage system.

INTEGRATED CHARGER

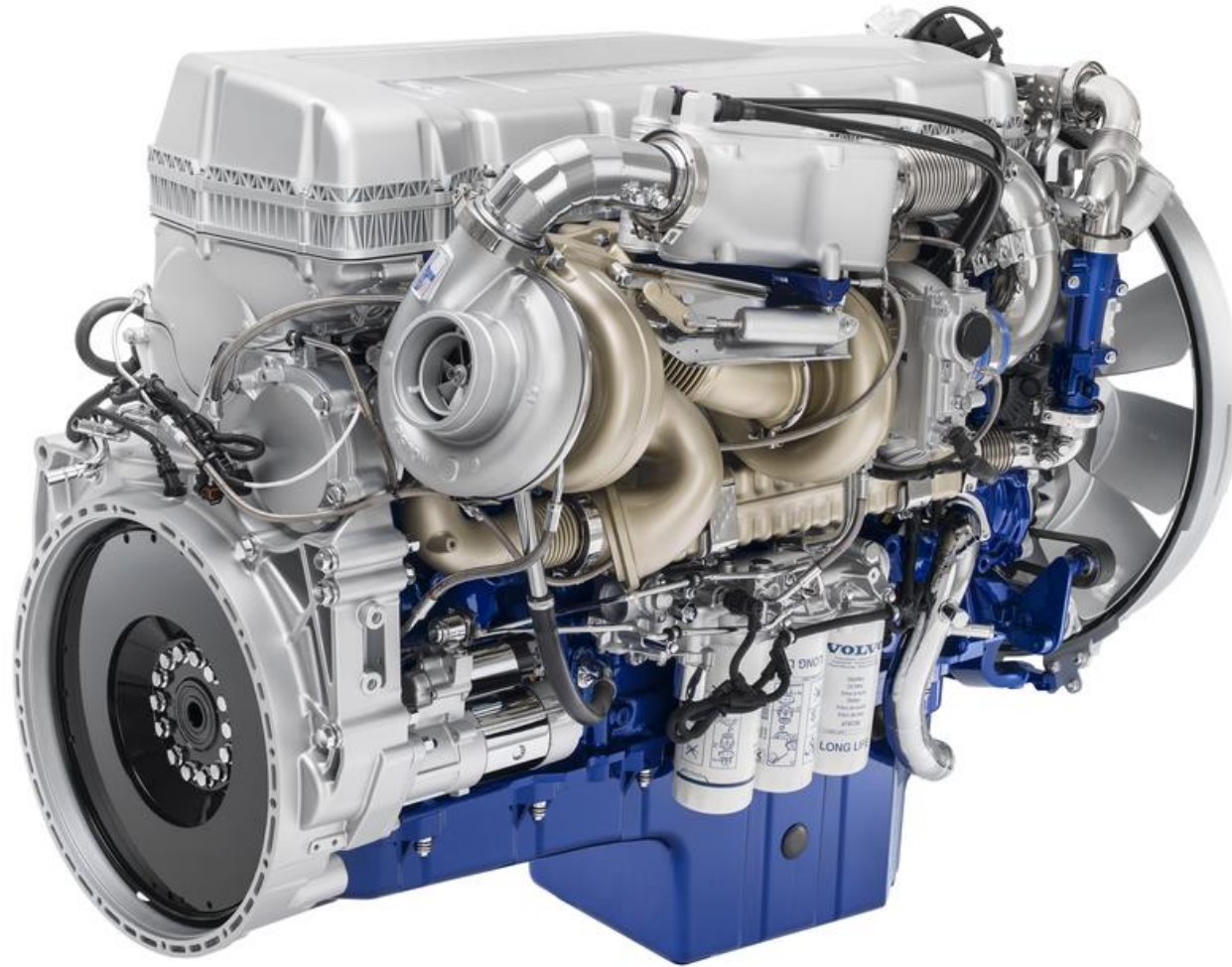
DC/DC converter provides power from the high voltage battery to the 12V system.



PHEV – a flash in the pan?

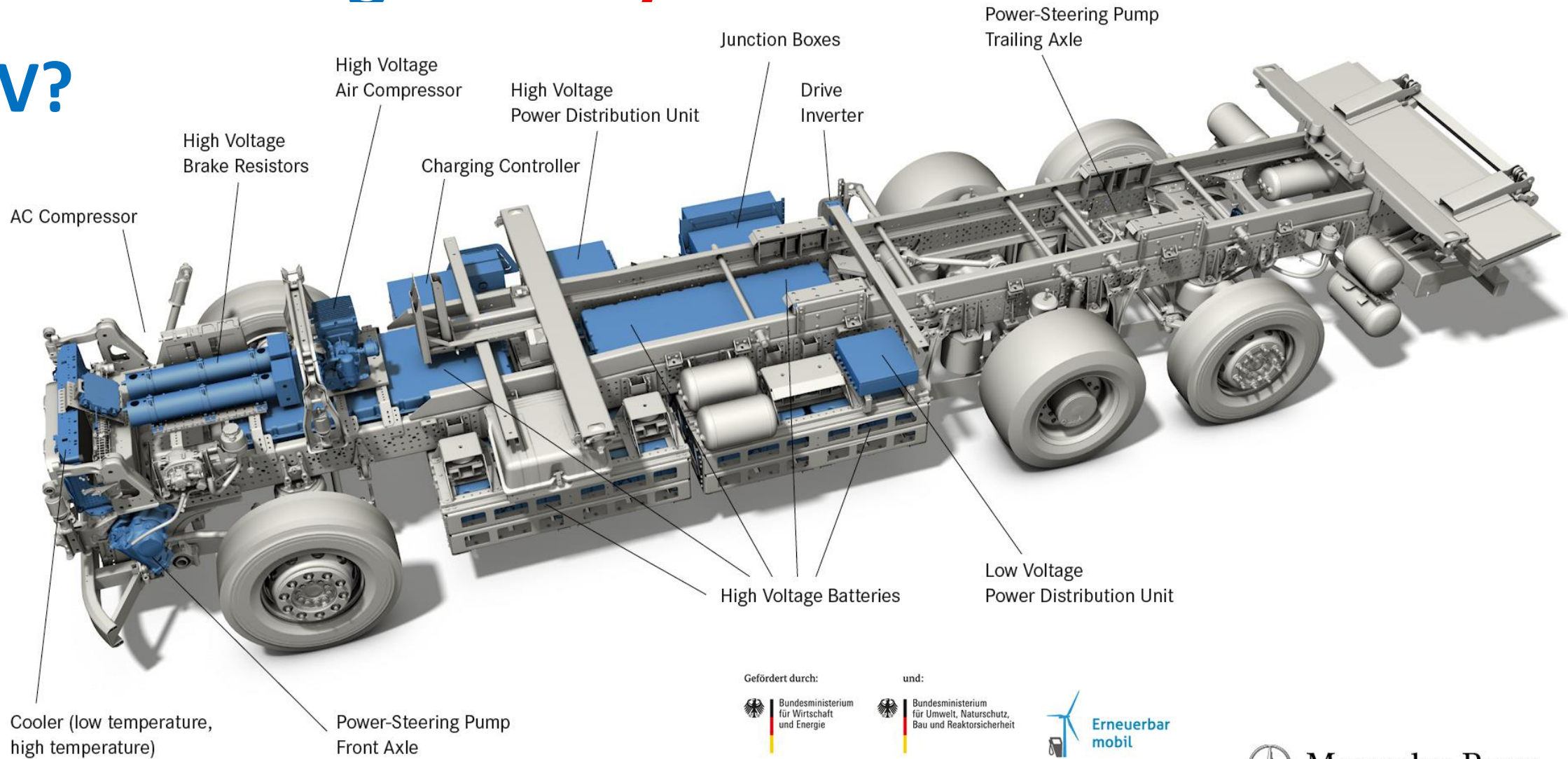


The challenge: HGV / PSV



The challenge: HGV / PSV

EV?



Gefördert durch:



Bundesministerium
für Wirtschaft
und Energie

und:



Bundesministerium
für Umwelt, Naturschutz,
Bau und Reaktorsicherheit

aufgrund eines Beschlusses des Deutschen Bundestages



The challenge: HGV / PSV Or FCEV?



The challenge: **HGV / PSV** Or FCEV?



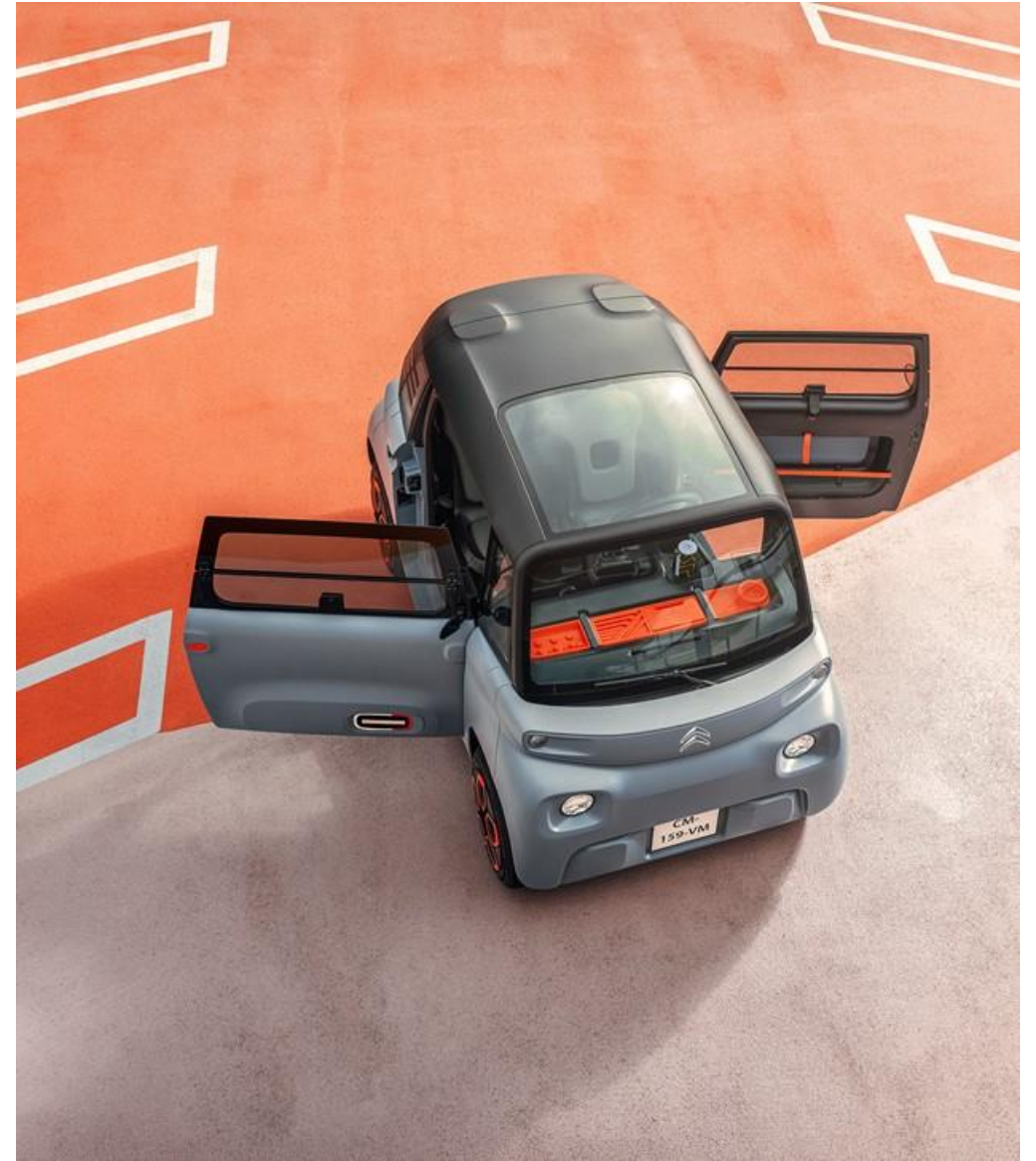
The challenge: **HGV** / **PSV**

Or direct supply?



The future.....

- Multi material
- Multi power locations
- Multi power sources
- 'Ownership'?
- 'Transition'?



What we have seen

1. The core protection
2. The headache: Power
3. The challenge: HGV



EVs – you have now seen quite a lot...

By Andrew Marsh FIMI,
Engineering Director,  ezi methods
andrew.marsh@autoindustryconsulting.com



Thank you!