

THE ALL-NEW BMW 7 SERIES.
DEEP DIVE POWERTRAIN & CHARGING.



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CHRISTIAN SCHNEIDER

HEAD OF PROJECT
BMW i7

THE ALL-NEW BMW 7 SERIES. DEEP DIVE POWERTRAIN & CHARGING.



MISSION STATEMENT.

- The new 7 stands for our clear goal:
At BMW the customer gets always the most efficient powertrain – no matter what technology he chooses.



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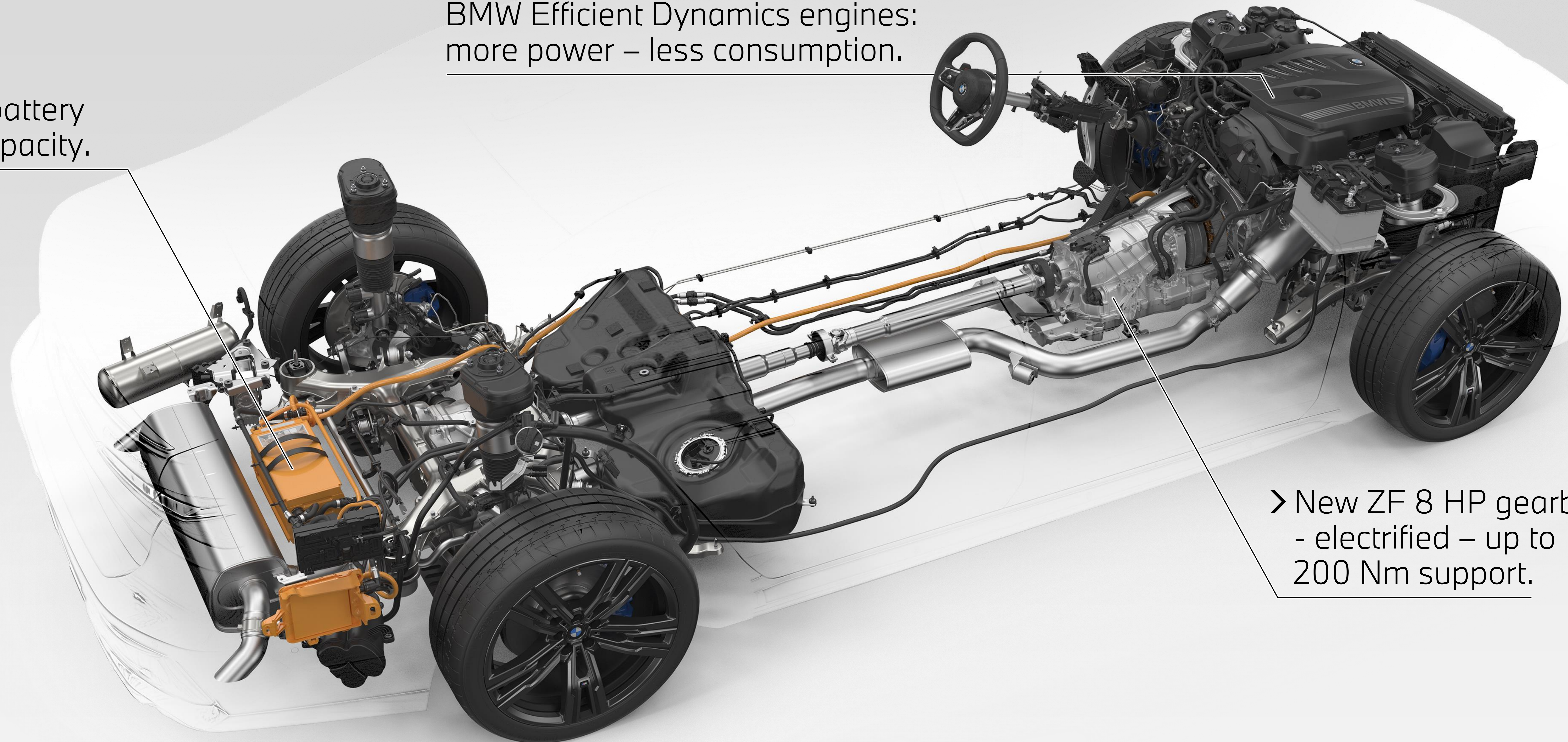


THE ALL-NEW BMW 7 SERIES. 48V MILD-HYBRID TECHNOLOGY.

➤ 48 Volt battery
20 Ah capacity.

➤ New module generation of
BMW Efficient Dynamics engines:
more power – less consumption.

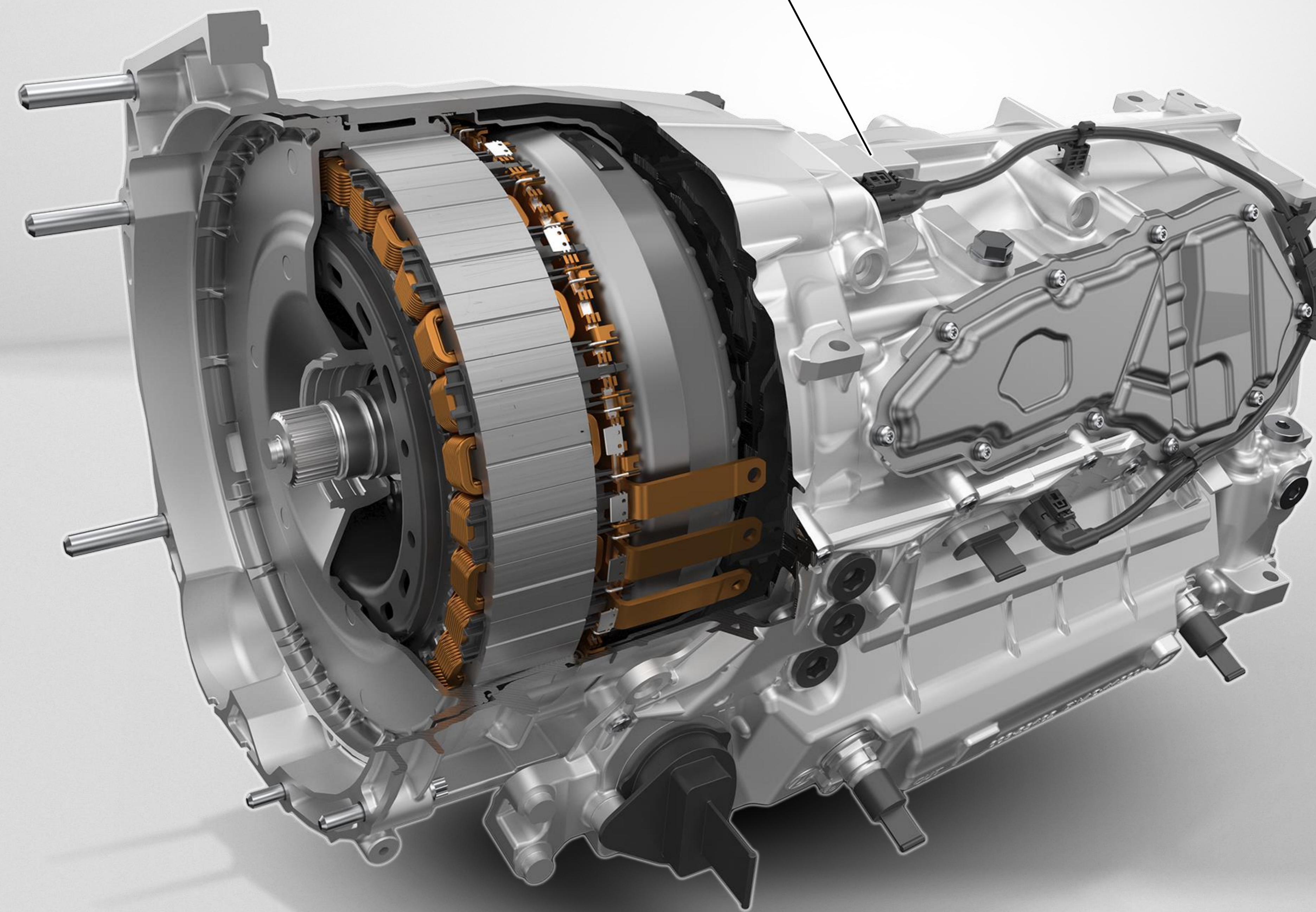
➤ New ZF 8 HP gearbox
- electrified – up to
200 Nm support.



THE ALL-NEW BMW 7 SERIES. 48V MILD-HYBRID TECHNOLOGY.



➤ Electric motor and power electronics
in one compact housing.



➤ Power supplied
by 48 Volt battery.

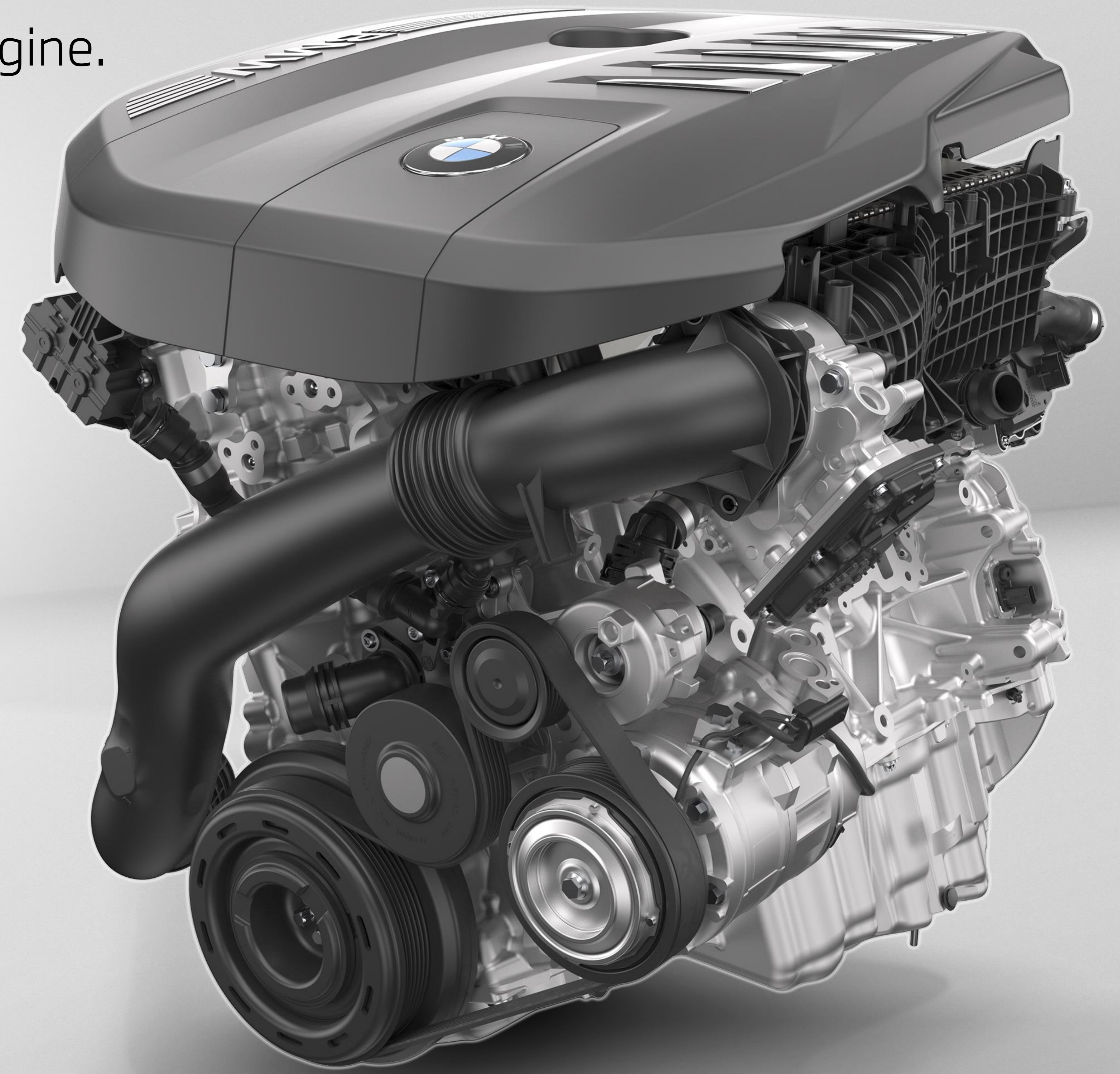


THE ALL-NEW BMW 7 SERIES. 48V MILD-HYBRID TECHNOLOGY.



Six-Cylinder In-Line Petrol Engine.

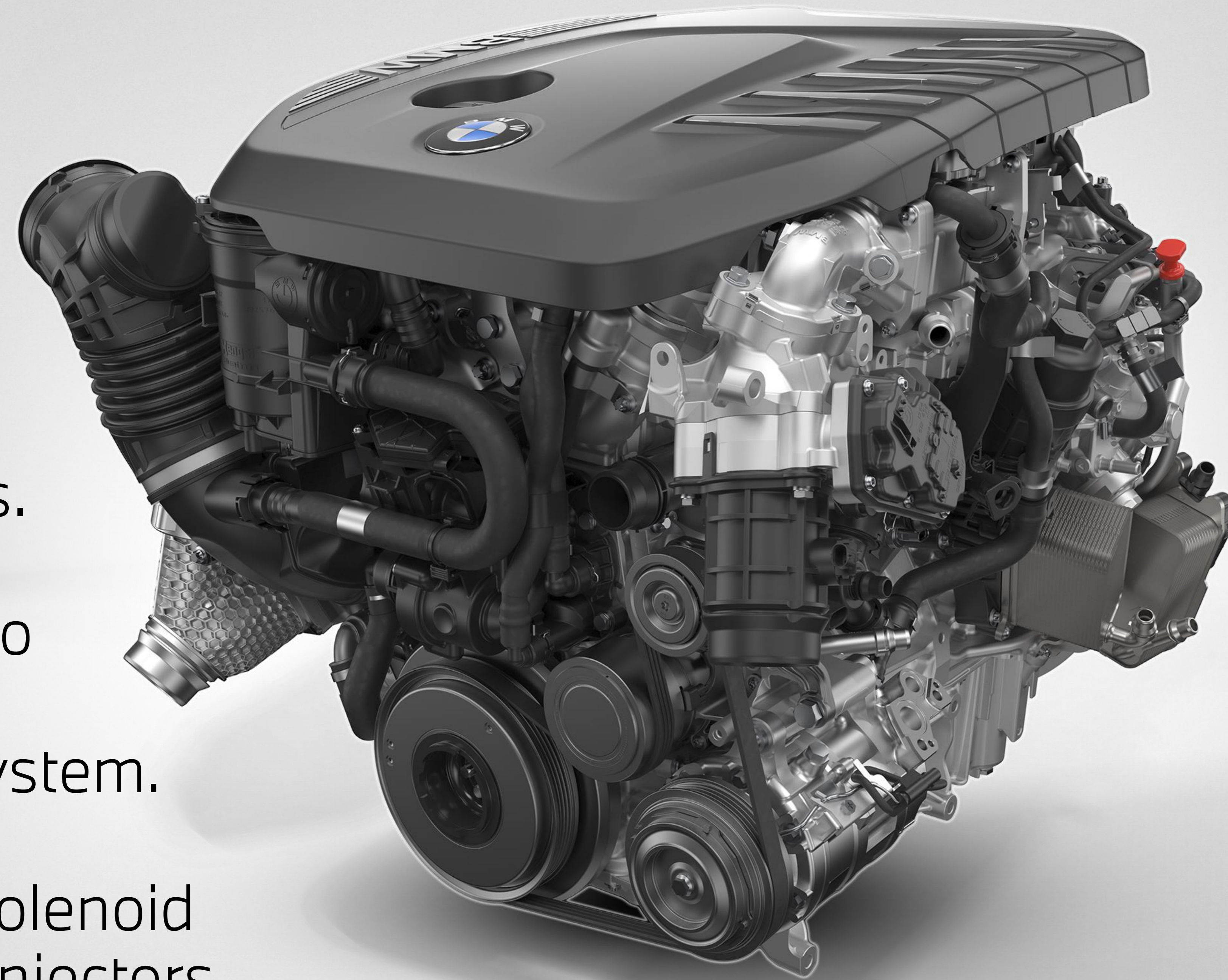
- Miller Combustion Method.
- New intake ducts and combustion chambers.
- Improved ignition system.
- Improved turbo charging and cooling.
- Electric VANOS.
- VALVETRONIC with outlet rocker arms which can be switched off.



THE ALL-NEW BMW 7 SERIES. 48V MILD-HYBRID TECHNOLOGY.

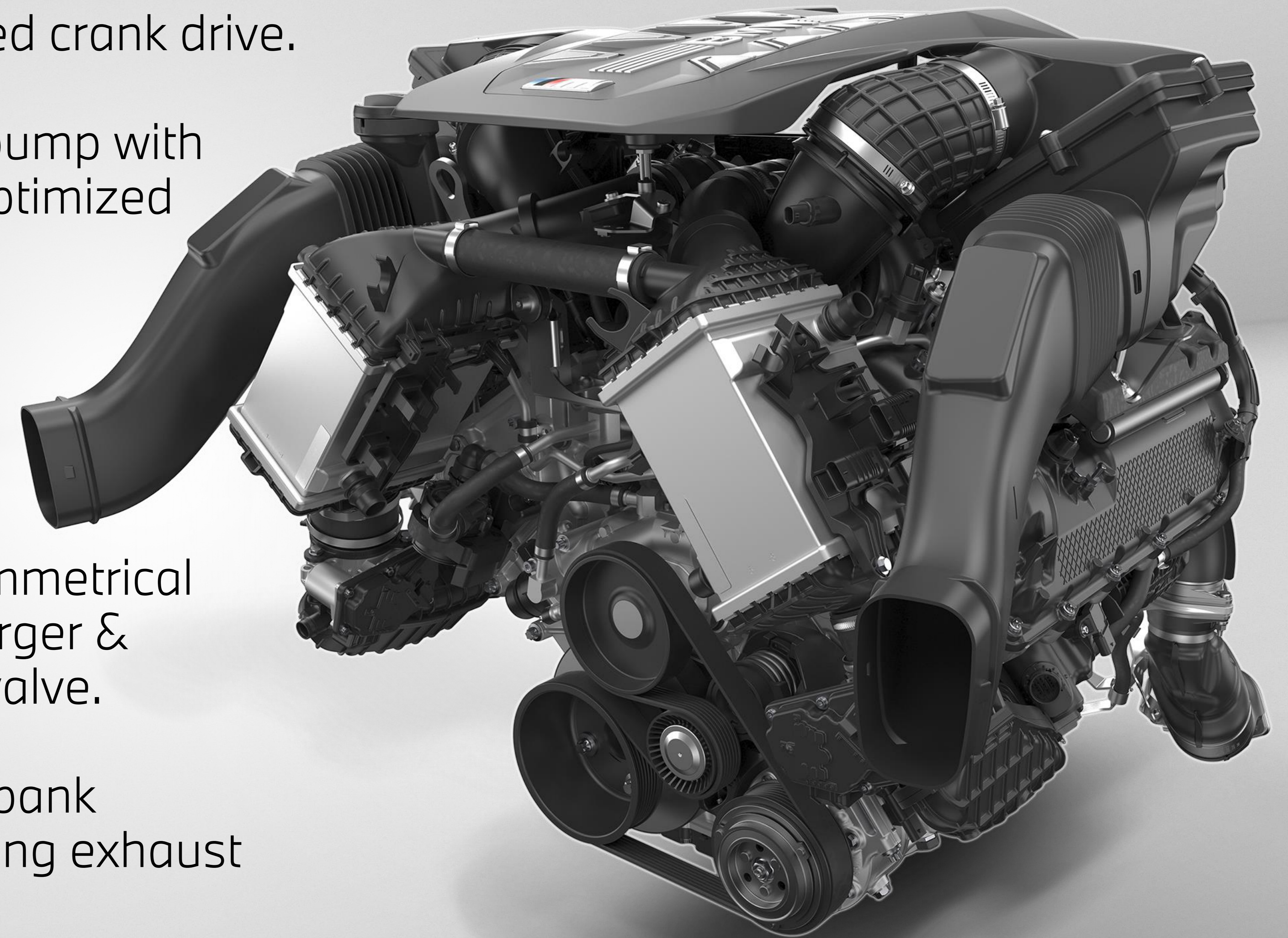
Six-Cylinder In-Line Diesel Engine.

- Steel pistons.
- Close to engine SCR system.
- New Solenoid Valve Injectors.
- Up to 12 injections with up to 2,500 bar.

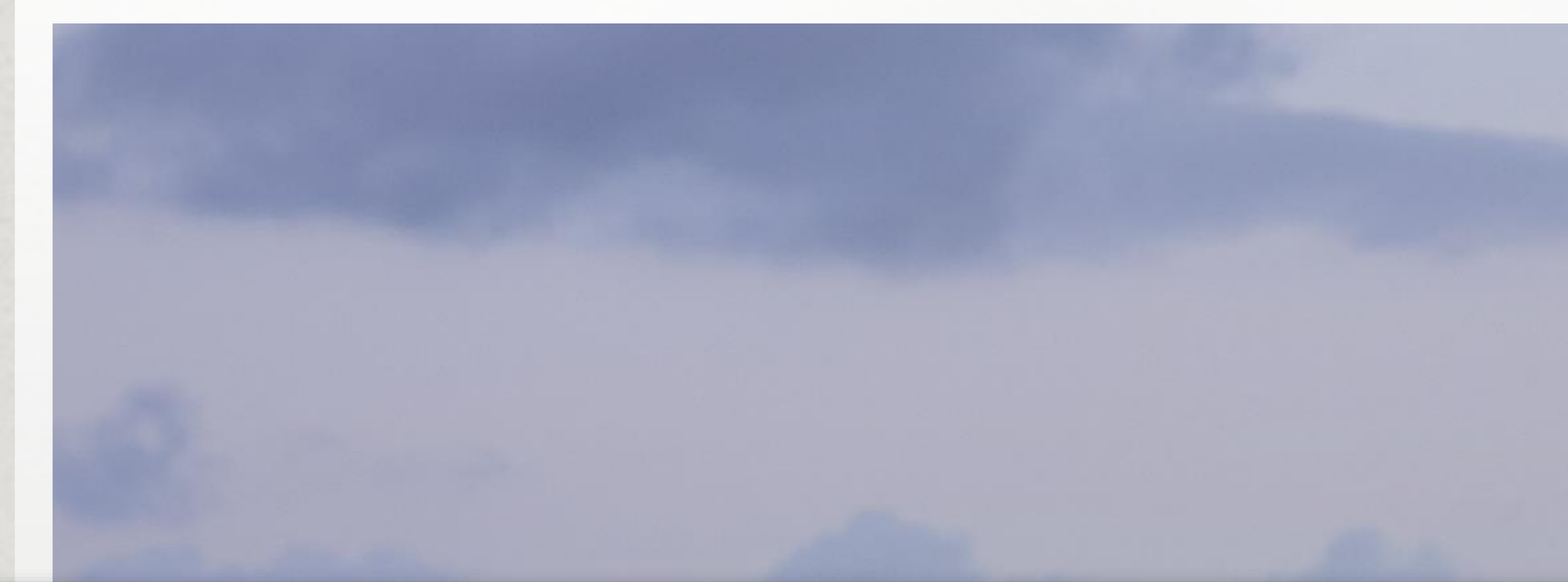


V8 Cylinder Petrol Engine.

- Reinforced crank drive.
- New oil pump with weight optimized oil pan.
- Cylinder bank-symmetrical turbocharger & diverter valve.
- Cylinder bank overlapping exhaust manifold.



THE ALL-NEW BMW 7 SERIES. MODELS WITH 48V MILD-HYBRID TECHNOLOGY.



	BMW 740d xDrive (available spring 2023)	BMW 740i xDrive (not available in Europe)	BMW 760i xDrive (not available in Europe)
Engine	Six-cylinder in-line	Six-cylinder in-line	V8 cylinder
Output	220 kW/300 hp	280 kW/380 hp	400 kW/544 hp
Electrification	48V Mild hybrid	48V Mild hybrid	48V Mild hybrid
Torque	670 Nm	540 Nm	750 Nm
Acceleration	6.3 sec (0 - 100 km/h)	5.4 sec (0 - 100 km/h)	4.2 sec (0 - 100 km/h)
Consumption*	6.9 - 5.9 l/100 km	8.0 - 7.0 l/100 km	11.2 l/100 km
CO ₂ emission*	182 - 157 g/km	183 - 159 g/km	225 g/km
Emission standard	Euro 6d	Euro 6d	EU6c

* Combined/WLTP.

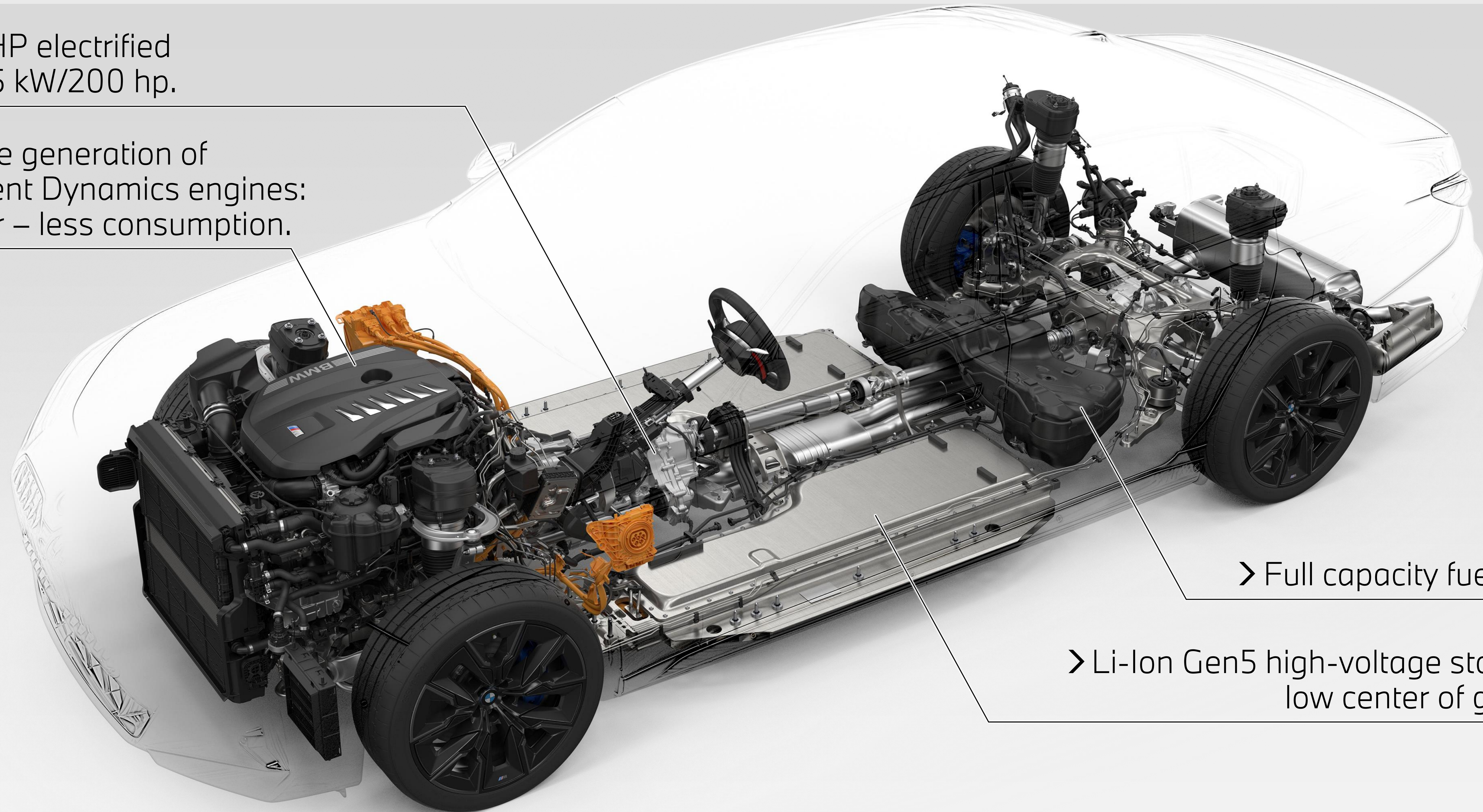


THE ALL-NEW BMW 7 SERIES.
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THE ALL-NEW BMW 7 SERIES. GEN5 PLUG-IN HYBRID TECHNOLOGY.

- New ZF 8 HP electrified gearbox 145 kW/200 hp.
- New module generation of BMW Efficient Dynamics engines: more power – less consumption.



➤ Full capacity fuel tank.

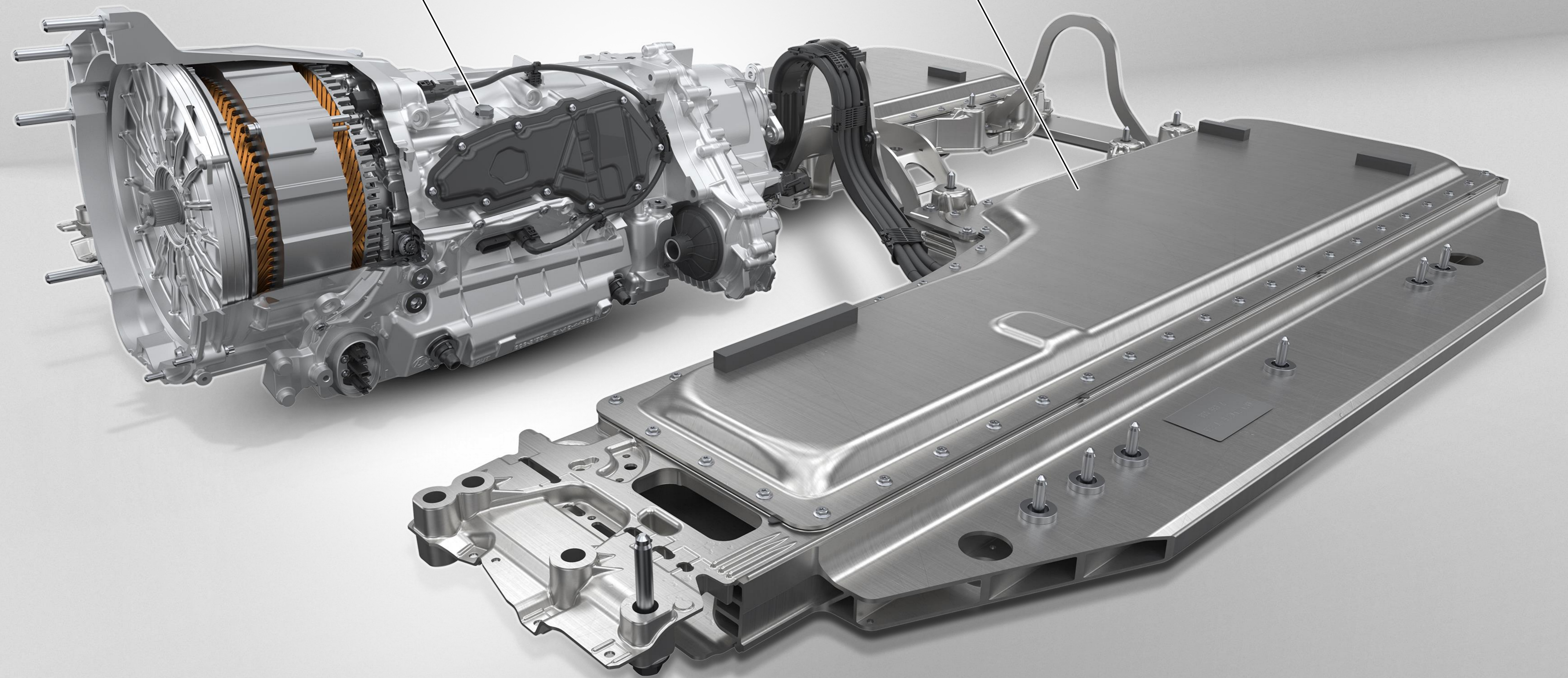
➤ Li-Ion Gen5 high-voltage storage / low center of gravity.

THE ALL-NEW BMW 7 SERIES. GEN5 PLUG-IN HYBRID TECHNOLOGY.



➤ Electric motor & power electronics in one compact housing.

➤ Li-Ion Gen5 high-voltage storage.



THE ALL-NEW BMW 7 SERIES. GEN5 PLUG-IN HYBRID TECHNOLOGY.

Essential further development
in the field of important criteria:

- eRange: + 65%
- Electric capacity: + 55%
- Fuel capacity: + 41%
- Charging performance: + 100%



THE ALL-NEW BMW 7 SERIES. GEN5 PLUG-IN HYBRID MODELS.

BMW 750e xDrive (available spring 2023)

BMW M760e xDrive (available spring 2023)

Total system output
(Depending on battery charging status)

360 kW/490 hp

420 kW/571 hp

Output combustion
engine

230 kW/310 hp

280 kW/380 hp

Output electric motor

145 kW/200 hp

145 kW/200 hp

Acceleration

4.9 sec (0 - 100 km/h)

4.3 sec (0 - 100 km/h)

Fuel consumption*

1.2 - 1.0 l/100 km

1.2 - 1.1 l/100 km

Electric power
consumption*

26.9 - 24.5 kWh/100 km

26.9 - 25.8 kWh/100 km

eRange*

80 - 89 km

80 - 84 km

CO₂ emission*

28 - 22 g/km

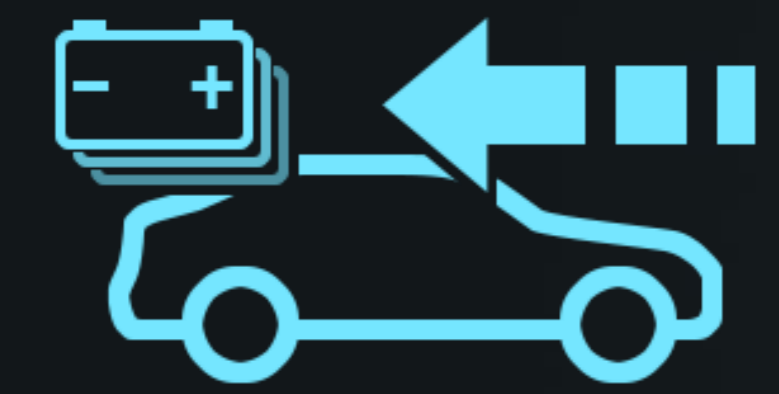
28 - 25 g/km

* Combined/WLTP.



THE ALL-NEW BMW 7 SERIES. ADAPTIVE RECUPERATION.

Adaptive recuperation of kinetic energy increases efficiency:
enabling a coasting function depending on the traffic situation.



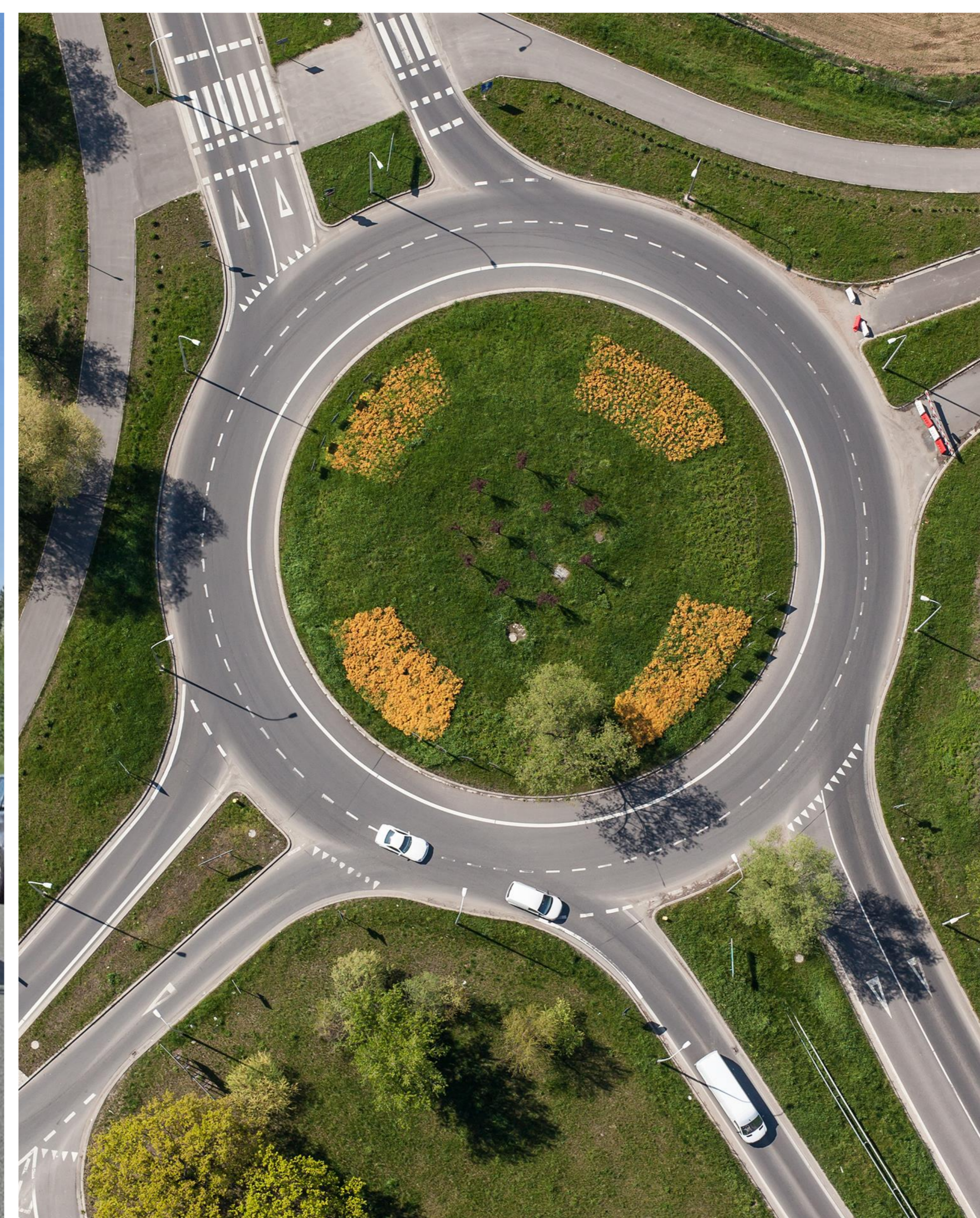
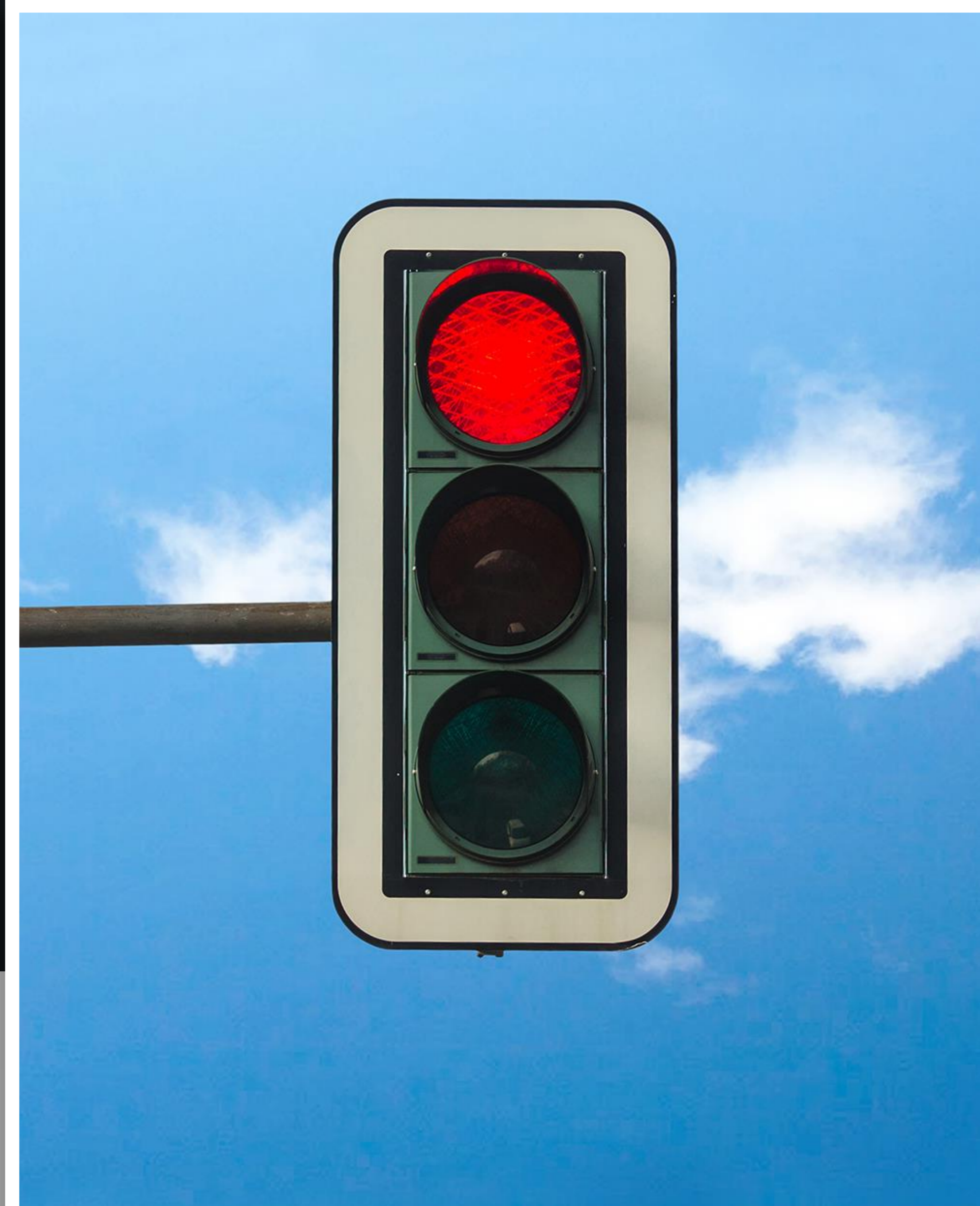
Traffic light



Front vehicle



Foresight



By using the different driving modes
via MyModes, the recuperation
system can be adjusted or switched
into the ADAPTIVE Mode which
is the most efficient set-up.



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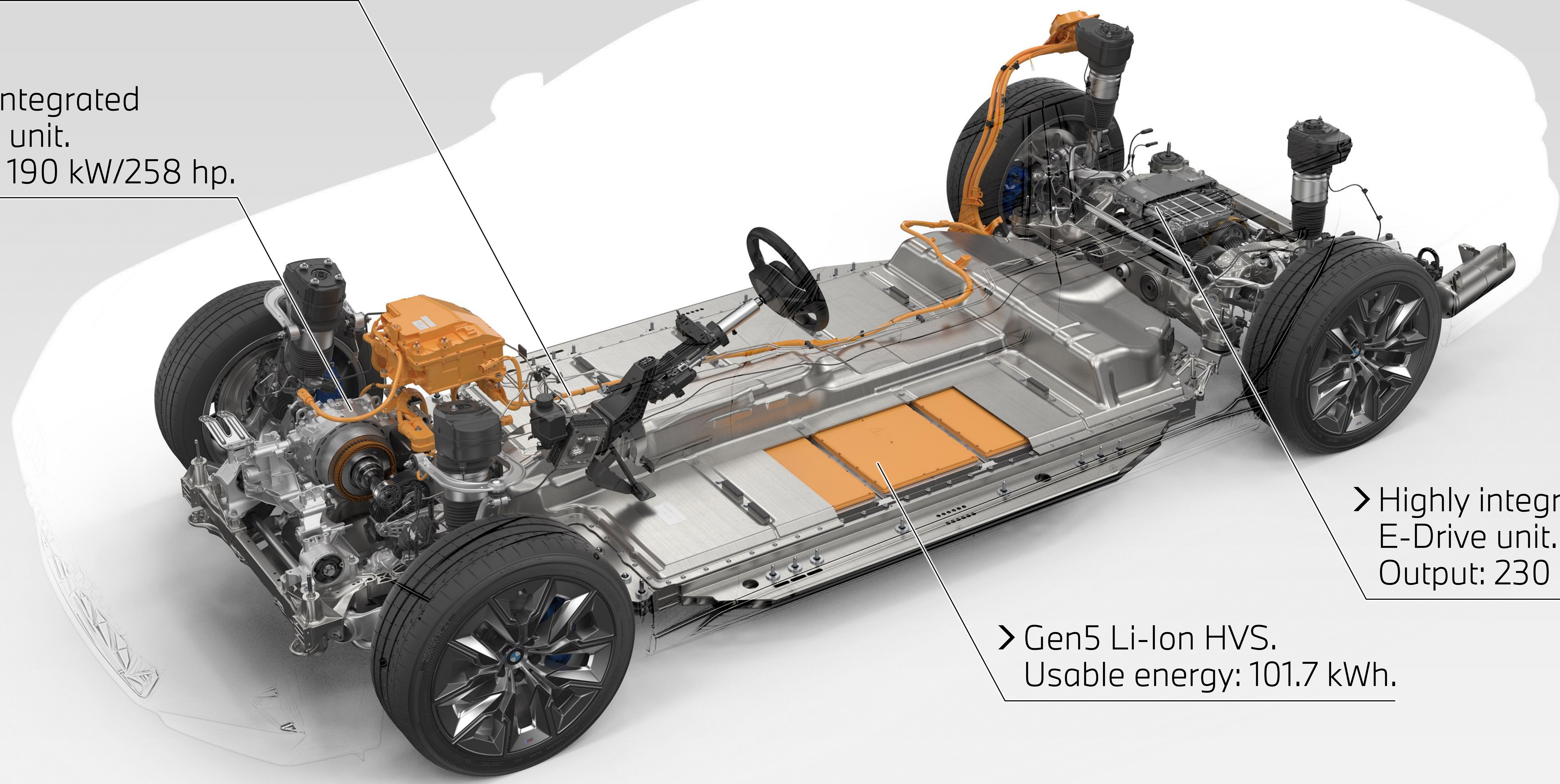


THE ALL-NEW BMW 7 SERIES. BMW i7 xDrive60.



➤ All electric BMW xDrive.

➤ Highly integrated
E-Drive unit.
Output: 190 kW/258 hp.



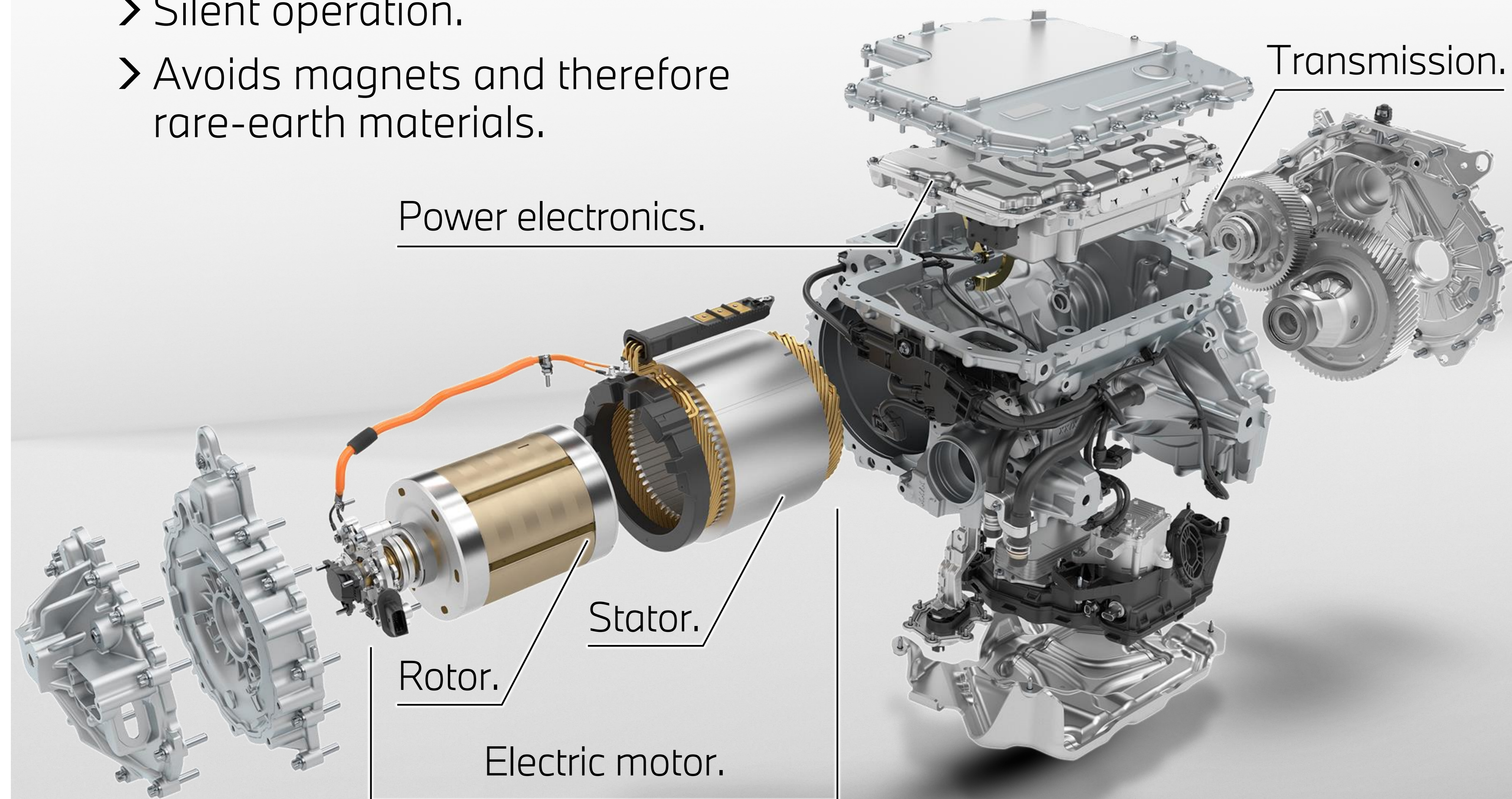
➤ Highly integrated
E-Drive unit.
Output: 230 kW/313 hp.

➤ Gen5 Li-Ion HVS.
Usable energy: 101.7 kWh.

THE ALL-NEW BMW 7 SERIES. BMW i7 xDrive60.

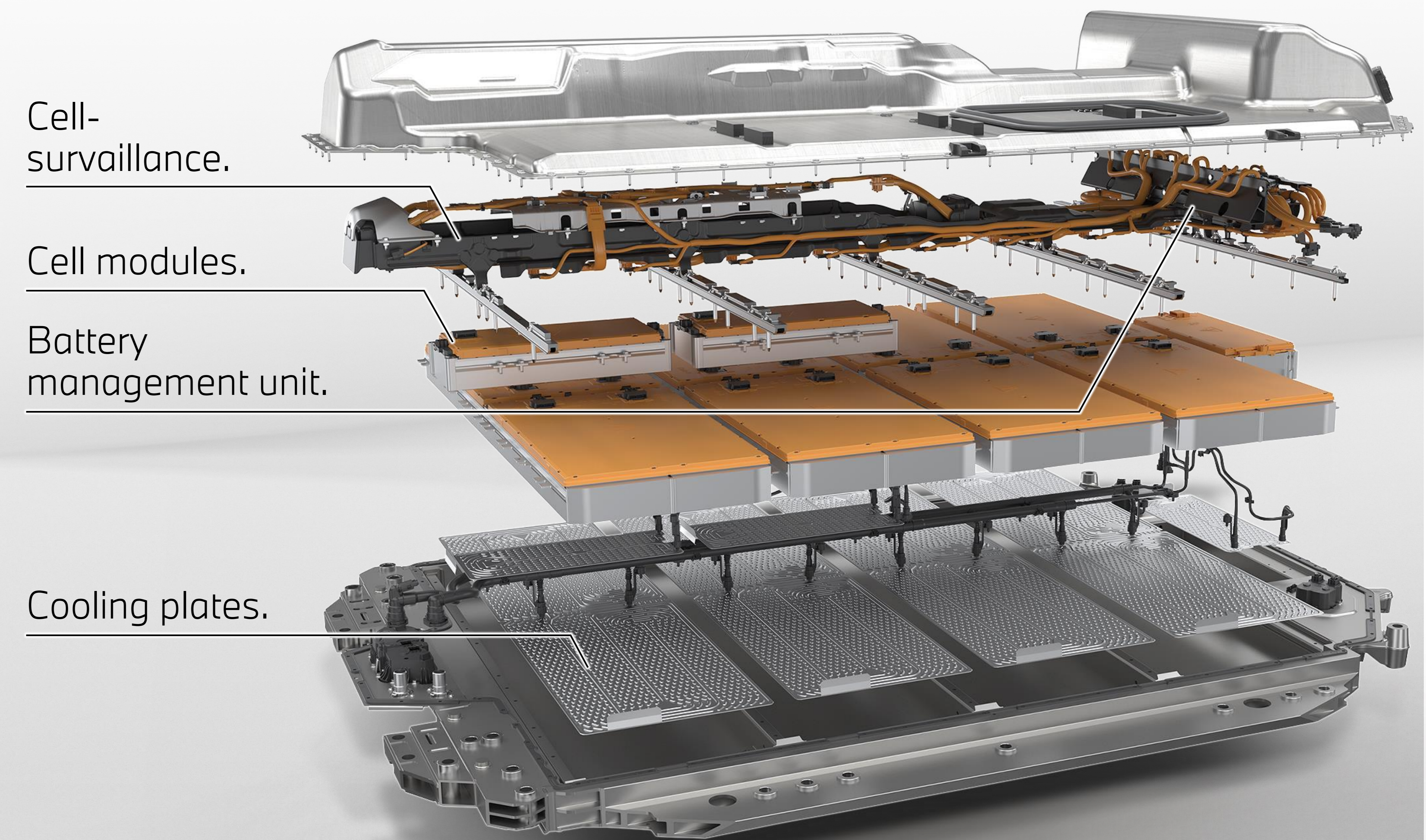


- ESM Technology: Electrically excited Synchronous Motor:
 - Conceptual Advantages:
 - Exceptional balance between high peak power and stable torque even at high rpm.
 - High efficiency factor of 93%.
 - Outstanding power to weight ratio.
 - Silent operation.
 - Avoids magnets and therefore rare-earth materials.



BMW GEN5
Highly Integrated Drive Unit.

- BMW Gen5 HVS: a highly scalable and modular system.
- BMW Gen5 Lithium-ion technology with Prismatic cells in different heights (110mm in the BMW i7).
- Usable energy capacity BMW i7 xDrive60: 101.7 kWh.

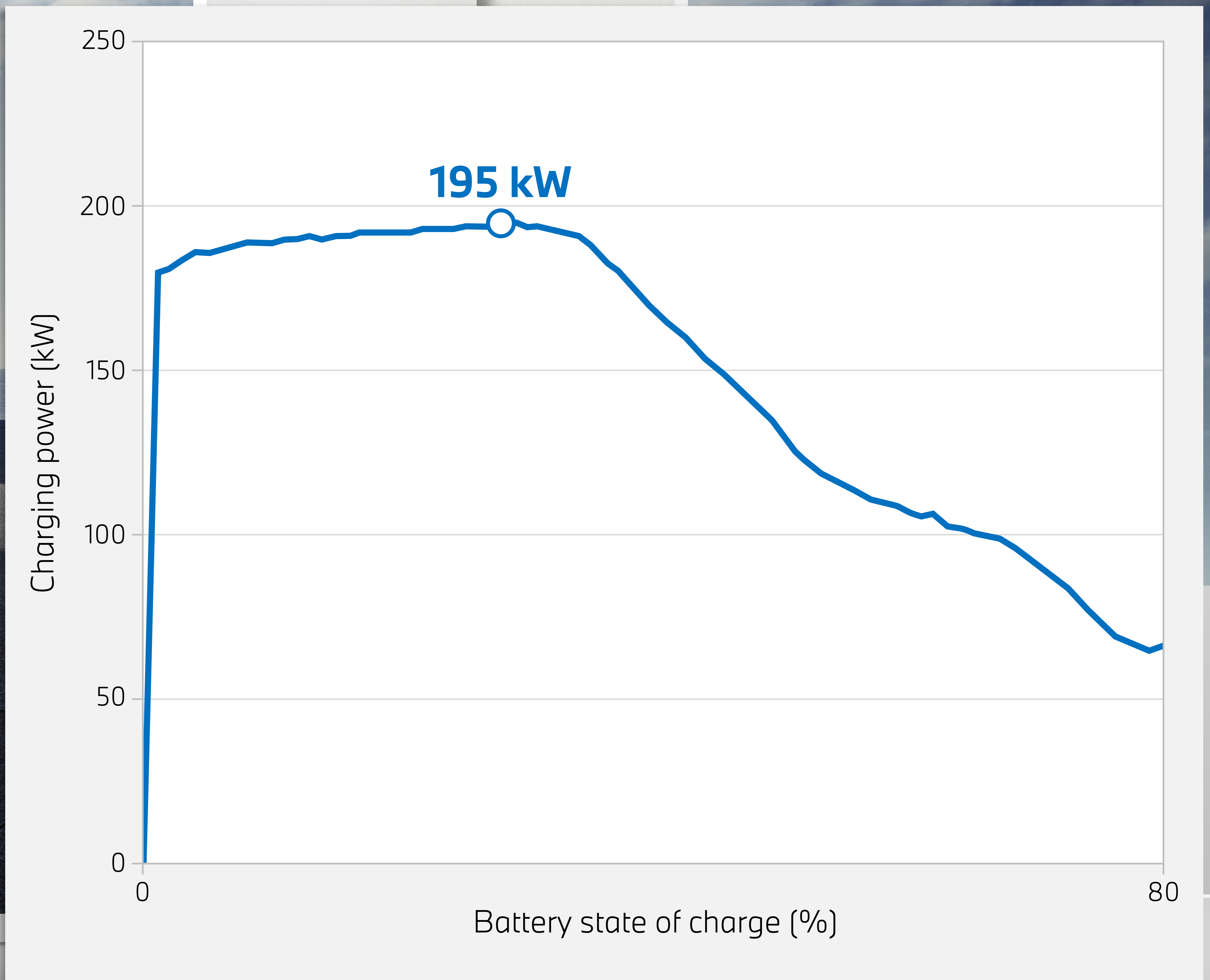


THE ALL-NEW BMW 7 SERIES. BMW i7 xDrive60 – CHARGING PERFORMANCE.



BMW i7 xDrive60 - Charging duration.

- 10 mins high-power charging (DC):
+ 170 km range.
- 10% - 80% high-power charging (DC):
34 mins.



THE ALL-NEW BMW 7 SERIES. DEEP DIVE POWERTRAIN & CHARGING.



BMW Efficient Dynamics.

- › New battery thermal management.
- › New charging software.
- › New option for DC charging pre-conditioning.
- › Improved eRoute.
- › Extensive standard equipment (minimizing WLTP and customer experience gap).
- › Efficiency-focused wheel and tire portfolio (minimizing WLTP and customer experience gap).
- › Improved adaptive recuperation.
- › High energy density in HV battery.
- › Power to weight ratio of highly integrated eDrive unit.

THE ALL-NEW BMW 7 SERIES.
DEEP DIVE POWERTRAIN & CHARGING.

