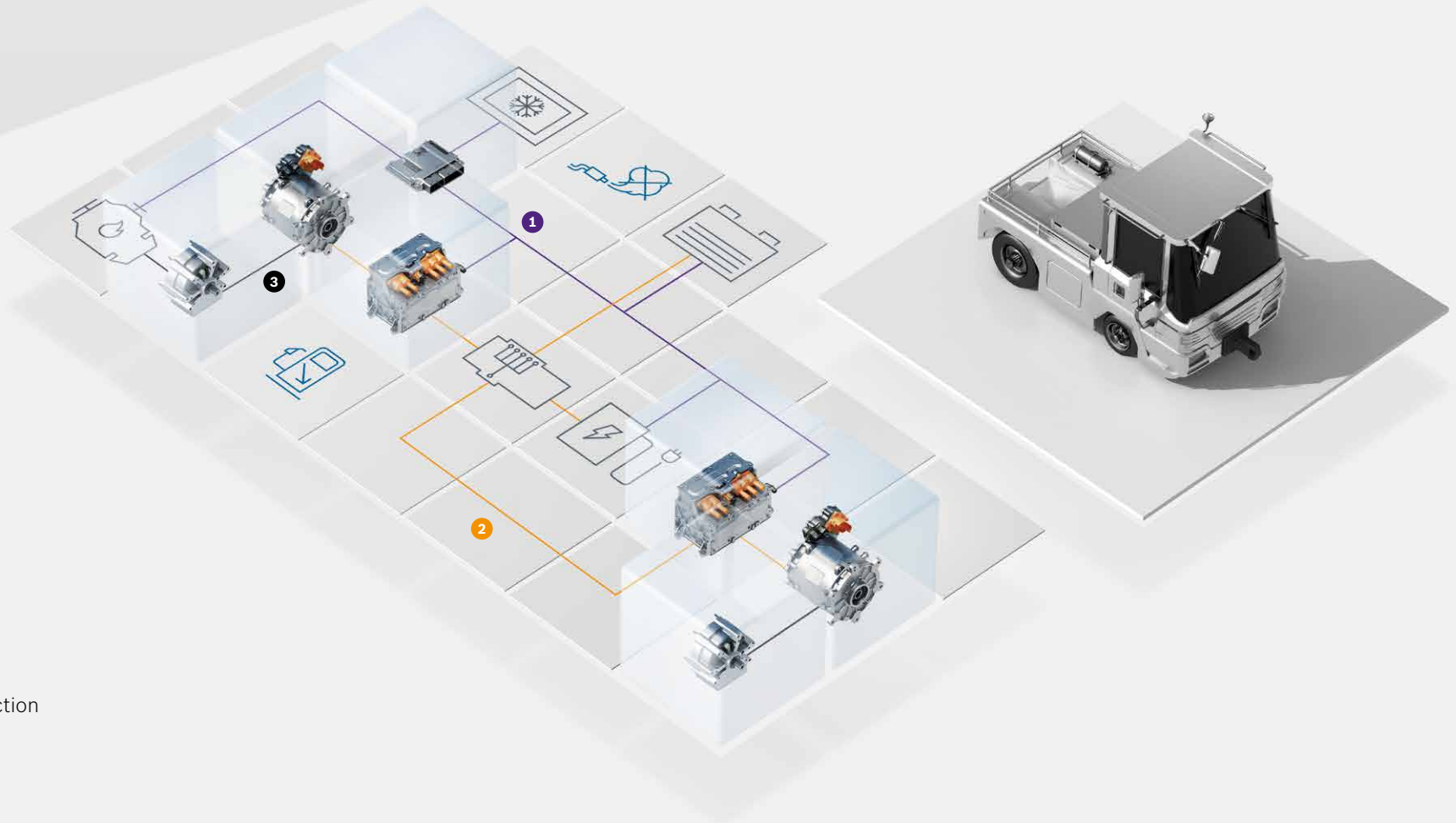


Electrified and designed for driving between terminals



BOSCH
Invented for life

Hybrid drive



- 1 Communication
- 2 High voltage
- 3 Mechanical connection

Hybrid drive for the luggage tow

AREA OF APPLICATION

At the airport there is more driving than flying. Luggage tow tractors must drive inside the terminals completely emission-free and yet still transport passenger luggage and cargo safely and quickly between the airport and the airport buildings.

VEHICLE DATA

- ▶ Electrified rear axle drive: e-machine SMG180, inverter INVCON 3.3, reduction gear EDT180, Electric Drive Control Unit (EDCU)
- ▶ Range Extender: e-machine SMG180, inverter INVCON 3.3, reduction gear EDT180, internal combustion engine
- ▶ Overall performance: 60 kW
- ▶ Range extender power: 30 kW
- ▶ Maximum speed: 30 km/h
- ▶ Total weight: 5 tons
- ▶ Towing capacity: 50 tons

SYSTEM DIMENSIONING

The requirements for the luggage tow tractor were to reduce CO₂ and to drive completely emission-free within interior spaces, while at the same time being able to provide sufficient traction for cargo transport. As a result, the powertrain was designed as a serial electric hybrid: Composed of the electric drive system on the rear axle, as well as a range extender, consisting of an electric machine and an internal combustion engine. In order to ensure optimal battery capacity, including range extender and charger performance, the usage profile was defined taking into account downtimes and breaks. The Electrical Drive Control Unit automatically deactivates the range extender when driving inside buildings and calculates warm-up times and regeneration intervals. This allows the range extender to operate with optimal emission strategy.

SYSTEM BENEFITS

When driving outside, the range extender reduces emissions and consumption by downsizing of the internal combustion engine. Indoors purely electric driving is enabled.

