

MANNHEIM, GERMANY

PRIMOVE E-BUS

100% e-mobility on demanding city route



In Mannheim, Germany, the commercial operation of fully electric buses - charged and powered by **BOMBARDIER PRIMOVE** - proves the system's suitability for everyday passenger services, even on demanding bus routes.

On Mannheim's inner-city bus route 63, two completely electrically powered and inductively charged buses allow passengers to enjoy a quiet and emission-free ride. Built by the Swiss manufacturer Carrosserie HESS AG, both e-buses are equipped with the full *PRIMOVE* package:







PRIMOVE wireless charging technology, high power *PRIMOVE* battery systems and the fully integrated *PRIMOVE* propulsion system. Mannheim also introduced an electric van equipped with the *PRIMOVE* wireless charging system as a service and delivery vehicle.

The *PRIMOVE* Mannheim project has been developed in close collaboration with local partners: regional transport operator Rhein-Neckar-Verkehr GmbH, the City of Mannheim and the Karlsruhe Institute of Technology. The project is funded by the German Federal Ministry of Transport and Digital Infrastructure.

primove
true e-mobility

BOMBARDIER
the evolution of mobility



	Bus line 63 Journey time Journey time in % Headway	9 km 34 minutes 85 % 20 minutes (weekday) 30 minutes (weekend)
	Charging stations Charging time	4 approx. 2 minutes
	End stops Charging time	2 approx. 5 minutes
	Depot Charging time	1 up to 15 minutes
	Bus stops (total)	22 (roundtrip)
	Number of e-buses	2

Rising to the challenge

Operating in the heart of the city, bus line 63 has 22 stops along a 9-kilometre route. An average speed of 13.4 km/h and very short dwell times at both intermediate and end stops make this line particularly challenging. With its fast and efficient opportunity charging, the *PRIMOVE* system enables electric buses to easily serve such demanding routes. It strategically positions the charging stations in the depot and at selected bus stops along the line.

E-van to complement e-bus service

For the first time, a fully electric *PRIMOVE* equipped Mercedes Vito e-van is operating as a service and delivery vehicle. With a maximum range of 240 kilometres, it will easily drive its daily 80-kilometre service route. The e-van will be charged at the depot, on average for just 180 minutes.

The PRIMOVE e-buses in facts

Bus	Hess Swiss <i>PRIMOVE</i> 12.0 m • Weight (empty): 12,000 kg • Capacity: 36 seated, 44 standing
Charging system	<i>PRIMOVE</i> charging 200 • Charging power: 200 kW • Efficiency: > 90 % • Grid connection: AC 400 V or DC 750 V
Battery system	<i>PRIMOVE</i> battery 60 • Type: Li-ion • Capacity: 60 kWh • Voltage: 660 V
Propulsion system	<i>PRIMOVE</i> propulsion 140 • Nominal power: 2 x 60 kW • Peak power: 2 x 140 kW • Auxiliary power supply: 24 V DC and 400 V AC
Approval	TÜV SÜD certified

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