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**Eliminating range anxiety:
New services are making electromobility
fit for everyday use**

Presentation by Dr. Rainer Kallenbach,
president, Connected Mobility Solutions division,
at the Bosch ConnectedWorld press briefing
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Thank you, Mr. Denner.

Ladies and gentlemen,

I would like to offer you a closer look at our system!e concept. In technical terms, system!e connects the electric powertrain to the Bosch Automotive Cloud Suite. This yields web-based services that improve the everyday benefits of electromobility – and lowers the barriers to purchasing an electric car. In the future, electric cars with system!e will know precisely when their power will run out, but also where they can find the next charging station. It will also be easier to integrate them into the owner’s home power grid. Let me illustrate this with three specific applications:

- First, an extended range forecasts. This helps overcome a key concern regarding electromobility. According to all relevant surveys, buying an electric car falls through most often due to “range anxiety” – car buyers rank the limited range of these cars ahead of the high price and long charge times as reasons for their “no.” Our extended range forecasts can allay drivers’ fears that their electric car will leave them stranded somewhere. The forecasts use data from the environment and the vehicle itself – traffic and weather forecasts, current battery charge, energy consumption of heating and air conditioning, tire pressure, and of course the driver’s personal driving style. All this feeds into highly accurate forecasts of the remaining range.
- Second, a charging assistant for longer journeys. This is another service that seeks to counter range anxiety. It starts with a new kind of route planning, which is based on the extended range forecast and makes suggestions according to when charging stops are required. Additional information about, for example, restaurants, cafés, and shopping options near the stop allow drivers to make the most of the charging time. And because the charging stations are connected to the internet, the service can arrange for payment online. As a result, driving even longer stretches

with an electric car is less stressful. Driving electric, yet stress-free – that is the goal.

- Third, our concept of energy management for charging at home, which can cut costs considerably. Specifically, this means that we will be able to integrate the electric car into the smart home's electricity grid. Its battery can then, for instance, supplement the stationary storage device for the house's photovoltaic system. During the day, the car absorbs surplus solar power; the battery feeds it back at night to, say, operate a heat pump. Still, the homeowners will want to drive their electric car again in the morning – all they need to do is tell the car the minimum charge needed for the desired destination. That is an example of how efficiently car and home will work together in the future.

Connecting electric cars with the smart home is a prime example of a cross-domain ecosystem, the supreme discipline on the internet of things.

Implementing it requires a versatile company – a company like Bosch, whose expertise extends beyond the car. That is why we also see system!e as a toolkit; we will use it to derive solutions for established automakers as well as start-ups. This is no far-off vision, either: together with our customers and partners, we will be able to supply the corresponding services within the next few months. Many talk about the future of mobility. We're making it ready for the market.

For more on what we are launching on the market besides mobility, some of which we are presenting here at Bosch ConnectedWorld, I now turn things over to Stefan Hartung.