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A revolution in the everyday:

How Bosch is seizing the opportunities of connectivity

Presentation by Dr. Stefan Hartung,
member of the board of management of
Robert Bosch GmbH,
at the Bosch ConnectedWorld press briefing,
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Ladies and gentlemen:

We just heard it from Mr. Denner: connectivity is the future. And not just connectivity of cars and mobility – the scope is much broader. The opportunities that the internet of things presents for our roads, our workplaces, and our homes are what we are showcasing at Bosch ConnectedWorld. I want to emphasize that we are not presenting far-off visions of the future; instead, we're demonstrating actual, real-world solutions. A few facts to illustrate this:

- Bosch has already designed, developed, and carried out 250 IoT projects.
- We are currently working on 170 of our own IoT projects, in areas as varied as connected mobility, connected buildings, connected industry, and connected agriculture – all of which are running on our own Bosch IoT Cloud.
- We sold 38 million web-enabled products in 2017.
- Today, the Bosch IoT Suite connects 6.2 million sensors, devices, and machines with users and company applications.

We recognized the potential of connectivity early on, and have been actively shaping the connected world for nearly ten years. We have steadily expanded our software and IT expertise. With over 25,000 software experts, today we are a software company, too. But how do we differ from the internet giants in the U.S. and Asia? Where Silicon Valley connects the digital world, Bosch connects the real world. **We have expertise in hardware as well as in software.** Above all, our IoT approach is aimed at achieving concrete improvements in people's real, everyday lives.

But what does that mean, exactly? Let me give you some examples:

The first concerns the **connected city**. In just about 30 years, two-thirds of the global population – six billion people – will be living in cities. Cities today already cause 80 percent of all greenhouse-gas emissions and consume 75 percent of the world's energy. Going forward, the quality of life in cities will

depend to a large extent on intelligent and connected solutions. Between now and 2020, the **smart-city market** will grow 19 percent each year to reach 700 billion euros. In this sector, we can draw on our broad portfolio and cross-domain expertise, while our customers benefit from our concrete solutions in the areas of energy, buildings, mobility, security, safety, and e-governance. The company is currently involved in 14 extensive smart-city projects in places such as San Francisco, Singapore, Tianjin, Berlin, and Stuttgart. It also won't be the last. Today, we're signing an agreement with the Chinese property developer Country Garden. Together, we will investigate opportunities for planning and building additional connected cities and smart living labs in China. Country Garden has more than 25 years' experience in developing residential areas, and Bosch will contribute its IoT and customer expertise. Over in the exhibition area, you can take a look at our activities in the smart city domain.

Connected homes: We are also showcasing the smart kitchen here at Bosch ConnectedWorld. With Bosch's Home Connect app, users can control a range of models of dishwashers, ovens, refrigerators, and coffee machines. Besides connected appliances, we offer an increasing number of digital services, too. During Mr. Denner's presentation you saw Mykie, the digital kitchen assistant who understands gestures and spoken language. Say you want to make a casserole, but with lamb instead of bacon. Mykie can adapt the recipe for you – in the future, taking into account what you have in the pantry – and can set the oven to the correct temperature as well.

Connected agriculture: Bosch also helps ranchers and farmers with their work. On Fazenda Santa Fé, one of Brazil's largest cattle ranches, Bosch sensors, software, and services help ranchers to monitor the weight gain of their livestock. Brazil alone has 100 million head of cattle, Argentina has 50 million, and the U.S. has another 100 million. We have also found a wide range of uses for smart agriculture here in Germany: our sensor-based solutions already support farmers who are growing tomatoes, asparagus, or potatoes, and our cloud-based milk monitoring system helps dairies and dairy

farmers ensure that their milk doesn't spoil. We decided to forgo the cattle herds today, but you can still learn about our asparagus and strawberry sensors here.

Bosch's newly formed **Connected Industry** business unit began operations in January 2018. It brings together the Industry 4.0 activities of our various departments and units, above all those in the software and services business. The unit's more than 500 associates offer our collective experience in project realization. Our industrial subsidiary Bosch Rexroth is also playing a major role here. It's working on fully-connected factories. These will be able to do much more than just reduce the power consumption of a single machine, for example. In the future, completely connected machines will be able to independently make decisions and organize themselves thanks to artificial intelligence. Whether as a one-off or in large volumes, connected industry and logistics enable us as well as our customers to produce items flexibly and cost-effectively. In about two years, we'll be able to show you what this looks like in our reference factory in Xian, China.

Between now and 2020, we aim to exploit Industry 4.0 to increase sales by more than a billion euros. Tomorrow, I will join with representatives from our partner companies to speak more about fully connected manufacturing, connected logistics, and especially about new services and business models in my keynote. I look forward to seeing you there.

With that, I come to the end of my presentation. We predicted early on that the IoT would change everything. We are visionary thinkers, designers, and partners for multiple aspects of the digital transformation.

Thank you very much. We would be happy to answer any questions you may have.