

**Testimony of Ludwig Willisch,
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**Before the Committee on Transportation and Infrastructure,
U.S. House of Representatives**

Hearing: “Building a 21st Century Infrastructure for America”

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Thank you, Chairman Shuster and Ranking Member DeFazio, and Members of the Committee for inviting me to participate in today’s hearing. Transportation and infrastructure are accepted as necessary by most people, however, they are just as often overlooked. I am especially grateful to be here today to lend support to these issues.

My name is Ludwig Willisch and I am the Head the Americas for the BMW Group. I represent the more than 70,000 people who have jobs provided and supported by BMW in the U.S. This includes:

- A dealership network across 48 states comprised of 341 BMW, 126 MINI, 152 Motorrad, and 36 Rolls Royce Motor Car dealerships;
- Our U.S. headquarters in New Jersey;
- Five Vehicle Distribution Centers in California, Georgia, Maryland, New Jersey, and Texas;
- Six Parts Regional Distribution Centers in Florida, California, Illinois, Texas, and Nazareth, Pennsylvania, which is the largest distribution center outside of Germany;

- Four regional sales offices in New Jersey, Illinois, Georgia, and California;
- A design studio, a tech office, and testing facilities in California;
- BMW Bank in Utah;
- BMW Financial Services in Ohio;
- ReachNow, our premium car sharing service, based in Seattle;
- BMW Technology Corporation in Chicago;
- Our carbon fiber manufacturing facility in Washington State; and
- BMW Manufacturing in South Carolina.

After investing nearly seven and a half billion dollars — starting over 20 years ago — our South Carolina plant is now the largest in our global production network. In addition, it receives nearly half of its energy from renewable resources: sustainable energy and manufacturing can work together.

What is more, this plant earns BMW the title of the largest exporter of vehicles in the United States by value. We estimate that BMW had around \$10 billion in U.S. exports last year alone.

For us, our commitment in the U.S. extends beyond numbers. Over the last 42 years, the BMW Group has worked hard to become part of the fabric of the communities in which we are present. We have a talented team and achieve much within our company, however, no one in this industry can go it alone. Every auto company relies on a network of suppliers, service providers, and reliable infrastructure to deliver for our customers.

In this spirit, I would like to give you a sense of how important transportation and infrastructure is through BMW's eyes. I will guide you through our footprint in the U.S. as I share with you how a vehicle comes to life.

The BMW X3 is one of our best selling vehicles. It is one of four models in production at our plant in South Carolina — the X3, X4, X5, and X6. The X3 is enjoyed by customers in 140 countries around the world after it is exported from South Carolina — but let us start at the beginning.

The current BMW X3 was designed by an American, Erik Goplen, out of our Los Angeles design studio, Designworks. Sketches lead to 3D milling and computer modeling. This data is sent to our designers in Europe and Asia as they collaborate on the final design. Once vehicle design is complete, it is sent to headquarters in Munich for engineers to begin taking the car from page to pavement. They work closely with colleagues in our Silicon Valley and Chicago Tech offices, bringing the latest technologies to the vehicle.

The next step for an X3 is production in the United States. In South Carolina alone, BMW has around 40 suppliers, a majority of whom are within 50 miles of the plant. Our logistics network also extends beyond nearby supplier locations. It includes the Greer Inland Port for daily parts deliveries and the Greenville-Spartanburg Airport for twice-weekly direct transatlantic service on a 747. Whether from suppliers, the Inland Port, or the airport: parts heading to the plant are moved by truck on a just-in-time basis. We rely on these rails, runways, and roads every day.

A finished X3 leaves the plant by rail with some heading to the West Coast. Others will be shipped to ports in New Jersey, Maryland, Georgia, Texas, and Florida. The majority head to the Port of Charleston for international export to 140 countries. This, in large part, is why deepening the Port of Charleston has been so important to us. On this point, I would like to give a special thanks to the Committee and in particular Chairman Shuster, Ranking Member DeFazio, and Representative Sanford of South Carolina for their support of the Water

Resources Development Act. The Port of Charleston and its surrounding infrastructure is absolutely critical to the export success of BMW and a number of other companies.

The remainder of the domestic vehicles are shipped via truck to BMW's Vehicle Distribution Centers in states across the country. From the Distribution Centers, the X3 is delivered to dealers in 48 states. Once an X3 arrives at a dealership, customers will take it out for a test drive. Hopefully they will purchase or lease the vehicle through BMW Bank in Utah or BMW Financial Services in Ohio.

As you can see, safe, reliable highway and rail networks are vital to operating our business today.

Looking ahead at a number of future mobility technologies, including automated driving, infrastructure becomes all the more important. Automated Vehicles, or AVs, have the potential to bring a number of benefits. Just a few of these benefits are:

- Increased safety by avoiding accidents,
- Access to mobility for those not able to drive themselves, and
- Greater efficiency by reducing traffic congestion and optimizing routing.

The technologies are still in development, but the promise of AVs is clear. The industry is making significant investments in these technologies to move them from test track to street.

There are also opportunities for the government to support these efforts. Some of these opportunities for government support are fairly straightforward. For example, the sensors and cameras in automated vehicles rely, among other things, on road markings and signs to orient and drive. In U.S.-based test drives we have conducted, some roads do not have adequately visible lines or road conditions are unpredictable. This makes it significantly more difficult for AVs to consistently perform. This is vitally important as consistent performance lays the

foundation for customer trust. Well-maintained streets and uniform lane markings would be helpful in accelerating the deployment of AVs. As would consistent signs and traffic signals.

Other areas of necessary government support are more involved, but crucial to the long-term success of AVs. BMW welcomed the first step in creating a regulatory framework for AVs. The Federal AV Policy guidelines released by NHTSA in 2016 are, on the whole, a positive development. Using the guidelines as a basis, we — industry, regulators, and the public — need to continue meaningful conversations to move forward. There is a lot of work to be done, but with so many stakeholder groups aligned on the desired outcomes of AVs, I am confident we can find a path forward.

In the meantime, industry needs to continue educating stakeholder groups on what is possible — and just as importantly — what is not yet possible with AV technologies. By this I mean we should focus on the safe operation of AV technologies in today's environment. We should be very cautious of deploying prototypes for customer road use. With this especially, we need to call the various technologies what they actually are — from driver-assistance features to fully automated systems. Finally, we need to agree on how best to accommodate and then integrate AVs with the rest of our road users and infrastructure. This will require a balance between making the technologies available quickly, and ensuring they are validated to be safe in an evolving environment.

After a brief snapshot of our world, I hope you will agree that mobility has a very bright future. Optimizing today's system while preparing for tomorrow's opportunities will not be easy, but it will be hugely beneficial if we get it right.

It is important to emphasize: this is not just an industry or government or general public effort: it is an opportunity that requires all stakeholders to bring their best ideas and open

minds to the table. I look forward to continuing this conversation and working together to make tomorrow's potential a reality. Thank you.

The BMW Group in the United States: Additional Information

The United States is the 2nd biggest market for the BMW Group worldwide, with over 365,000 vehicles and roughly 13,800 motorbikes sold in 2016.

The BMW Group has its largest production site worldwide in Spartanburg, South Carolina. BMW began manufacturing vehicles in the U.S. in 1994 and since then, South Carolina has produced more than 3.7 million vehicles for the world. Plant Spartanburg broke another production record in 2016 with over 411,000 vehicles produced. The plant has an installed capacity that will enable production of more than 450,000 vehicles annually. In 2016, BMW exported 287,700 vehicles from Spartanburg (around 800–1,000 a day).

Capital investment to date in Plant Spartanburg is more than \$7.4 billion, including a \$1 billion expansion currently underway. The plant currently employs 8,800 people, with 800 new jobs added just in the last two years. Nationwide, approximately 70,000 people depend on jobs created and supported by the BMW Group through its sales, manufacturing, distribution, and corporate locations throughout the U.S.