



Statement for the Record
“Autonomous Vehicles: Promises and Challenges of Evolving Automotive Technologies”
Subcommittee on Consumer Protection and Commerce
House Committee on Energy and Commerce
February 11, 2020

Continental appreciates the opportunity to submit this statement for the record regarding the Subcommittee hearing on February 11, 2020 to discuss the opportunities and challenges associated with autonomous vehicles and evolving automotive technologies. We would like to thank the members and staff for their willingness to explore this topic and for inviting input. We believe that the input you receive in conjunction with this hearing will assist you in determining how the federal government can best help achieve the potential benefits that may be realized through automated driving and advanced driver assistance systems. At Continental, we have extensive experience in developing innovative technologies in these areas and we invite you to consider the following comments.

Continental is a leading technology company and leading Tier 1 supplier that develops intelligent technologies for transporting people and their goods. We provide our customers with sustainable, safe and affordable solutions that enhance automotive safety. In 2019, we generated more than \$50 billion in sales globally within our five divisions, Chassis & Safety, Interior, Powertrain, Tires, and ContiTech. Continental employs more than 20,000 employees in the U.S. at more than 80 facilities located in 35 states and has more than 240,000 employees in 60 countries.

Innovation has always been at the heart of the automotive industry. Today, we are witnessing the automotive industry evolve from a crashworthiness mindset, where manufacturers try to make the passenger cabin more survivable in the event of an accident, toward a crash avoidance mindset to prevent an accident from happening in the first place.

Continental, and our dedicated employees, have been pursuing the long-term strategy of a Vision Zero future with zero traffic fatalities, injuries and ultimately zero crashes. Such a future can only be achieved with the help of innovative active and passive safety, driver assistance, and automated driving technologies. As Continental brings these technologies to market, we exhaustively test products, and subsystems, as part of a larger system of advanced driving assistance technologies that will be integrated with a variety of components by original equipment manufacturers.

Our Vision Zero philosophy is embedded in each technology we develop as we continue to enable automated driving. At Continental, we describe our systems approach through three primary actions— Sense, Plan Act. Whether the technology simply assists the driver like many systems on the road today, or ultimately takes over the driving task completely, it first must SENSE the surrounding environment and gather the necessary data that can be interpreted. Sophisticated

sensor systems can help eliminate human error and distractions by providing 360-degree awareness of the road at all times. The data gathered from the sensors is analyzed to identify obstacles or hazards. Our systems then dynamically develop a PLAN to determine how to assist the driver. Once that plan is in place, the systems will ACT to execute the plan to safely and comfortably pilot the vehicle, and in certain cases avoid a hazard or crash situation. Our Sense, Plan, Act approach is the foundation behind Continental's active safety and Advanced Driver Assistance Systems technology and is a key component to advancing automated driving systems. We believe that when fully automated driving is possible, traffic fatalities can be reduced by more than 90 percent because that is the percentage of accidents that are caused by human error, according to NHTSA.

Continental has been an active participant globally in policy discussions and initiatives with governments, automotive industry partners, trade associations and other standard setting organizations. The collaborative efforts to help establish consistency within the emerging self-driving market has been crucial to the advancement of automated driving technologies. Several of our divisions are working together to develop safety solutions, including highly sophisticated intersections, with vehicle and integrated infrastructure technologies that will help save the lives of vehicle occupants as well as pedestrians while improving transportation efficiency in urban environments.

Continental is one of the leading suppliers in this market, with a complete portfolio of technologies for all defined levels of automation. Each innovative safety feature undergoes an extensive testing process before becoming available to the market. As a supplier, we currently develop a multitude of innovative technologies that can save lives and enhance the driving experience under the Level 0 to Level 2 definitions of automation. These products are designed based on the needs of our customers to assist the driver in interpreting the surrounding environment and control the vehicle in order to prevent a crash from occurring.

Our company has been integral in the deployment of current crash avoidance technologies such as lane keep assist, rear back up assist, automatic emergency braking and adaptive cruise control, amongst others. These crash avoidance technologies are the building blocks to higher levels of automated driving and need to be embraced as crash avoidance technologies that save lives. This is why Continental has established a consumer awareness campaign called [Safely There](#) to help educate drivers about the potentially lifesaving technologies already available on the market today. All technologies can be found throughout the fleets of most vehicle manufacturers. We believe that there exist significant opportunities to reduce roadway fatalities and injuries and the associated economic costs through greater deployments of driver assistance technologies. We support the effort underway at the National Highway Traffic Safety Administration (NHTSA) to establish performance standards and test procedures for these technologies.¹ We additionally support plans by the agency to examine the New Car Assessment Program (NCAP) and seize the opportunity to promote the adoption of live-saving driver assistance technologies via that program. Regarding NCAP, we are disappointed that the agency has not implemented the Section 24322 of the FAST Act which directed NHTSA to initiate a rulemaking to ensure that crash avoidance information is

¹ NHTSA's Federal Register notice published November 21, 2019 sought comment on a series of nine draft test procedures developed by the agency to assess the performance of certain types of advanced driver assistance technologies.

indicated next to crashworthiness information on stickers placed on motor vehicles by their manufacturers. We believe that the oversight responsibility that has been granted to the Committee necessitates action to ensure that this and other mandates concerning motor vehicle safety are not ignored.

Another area where we believe the Committee can play a role, again through its oversight responsibility, is with respect to ensuring this Administration follows through on promises to update and/or remove antiquated regulatory requirements that may preclude the introduction of an advanced technology. Since early 2018², the Administration has indicated that it would issue a notice seeking comment on existing motor vehicle regulatory barriers to the introduction and certification of innovative motor vehicle technologies. We fully support this rulemaking and believe that there are many opportunities to improve the regulations so that they do not impede or stifle innovation. We continue to look forward to NHTSA acting to explore this opportunity and we hope that the Committee will encourage the agency to take action sooner, not later.

As the industry moves forward toward Level 3 automation technology and beyond, Continental is positioned to supply public and personal transportation needs with the safest and most advanced technology available on the market. The world and the behavior of drivers within it are ever changing, and the vehicle must adapt to these changing trends. Our children seem to rely on smartphones more so than vehicles. Living in a world of distractions has become commonplace. Automotive technology must be developed accordingly. That is why Continental has put a great deal of effort into Human Machine Interface technology. We want the driver to be aware of their surroundings, be aware of what the systems in the vehicle are doing and be aware of when it is safe to relinquish control of the vehicle and when to reengage with the vehicle. In addition to informing the occupants, keeping them safe, and pedestrians safe, we must also secure the systems within the vehicle. As part of system development for Highly Automated Driving, we focus on redundancy of vehicle safety systems. That is why we are developing complimentary systems and technologies that support existing safety systems in the vehicle's architecture.

Since 2011, we have continued a pursuit of testing and developing highly automated driving with next generation technologies like automated parking, cruising chauffeur and a complete self-driving vehicle in combination with vehicle communication technology. We were the first supplier in the U.S. to be awarded a testing license for automated vehicles in Nevada and are currently testing our third-generation automated vehicle on highways and roads throughout the country and around the world. We are currently integrating sophisticated technologies such as high-resolution flash lidar, which will expand the vehicle's detection capabilities. This is the same technology that has been deployed on space shuttles at the most advanced technical level, and we are working to utilize its potential for road applications. Our continued efforts in this direction would benefit greatly from an investment in infrastructure that improves ADAS performance and harmonization of safety laws that allows for the full real-world testing of these technologies.

The challenges in broadly testing this new and innovative safety technology across the country are great. The industry currently faces considerable uncertainty on state and federal requirements that

² See Spring 2018 Unified Agenda of Federal Regulatory and Deregulatory Actions, RIN: 2127-AM05

would require clarification from the federal government's exclusive authority to regulate all motor vehicles. The safe commercial deployment of potential lifesaving technology depends on the ability to extensively test on public roads under all conditions. In order to envision a future of full automation, the government must review federal motor vehicle safety standards that would allow for vehicles that may always not be under the full control of a driver. Similar to the need of improved road conditions as automobiles transitioned from rural landscapes to metropolitan areas in the early 1900s, we need a road infrastructure that complements automotive advancements, and a legal framework that supports a new system of mobility.

The automotive world is one filled with innovation and excitement. Software developers are becoming automotive suppliers, automotive companies are becoming software developers, and our vehicles are becoming our smart devices. The world of mobility has the capability of expanding to unimaginable independence and personal freedom without sacrificing the safety of future generations. Continental stands ready, alongside our industry colleagues, to work with the Committee and Congress in helping construct laws that foster innovation, enable mobility and create a safer environment for the public.