

Motor & Equipment Manufacturers Association

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Statement for the Hearing Record “Paving the Way for Self-Driving Vehicles” Submitted to the Senate Committee on Commerce, Science & Transportation

The Motor & Equipment Manufacturers Association (MEMA) applauds the Committee’s bipartisan effort resulting in the release of Principles for Self-Driving Vehicle Legislation. We agree with the principles put forth concurrent with the hearing held on June 14, 2017, and offer the following information and comments for your consideration:

About MEMA

MEMA is the leading international trade association in the fast-changing mobility industry. Representing motor vehicle suppliers that manufacture and remanufacture components, technologies, and systems for use in passenger cars and heavy trucks, MEMA serves as a critical bridge between high-tech capabilities in new vehicles – such as automated and connected vehicles – and the “nuts and bolts” of vehicle manufacturing. Motor vehicle suppliers contribute more than 77 percent of the value in today’s vehicles.

MEMA works to ensure that the marketplace and public policies support the development of advanced, transformative technologies that enable safer, smarter, and more efficient vehicles. MEMA’s members are represented through four divisions: Automotive Aftermarket Suppliers Association (AASA), Heavy Duty Manufacturers Association (HDMA), Motor & Equipment Remanufacturers Association (MERA), and Original Equipment Suppliers Association (OESA).

Earlier this year MEMA released an important economic impact study that clearly defines the critical role motor vehicle parts suppliers play in the U.S. economy. Motor vehicle component manufacturers are the largest employer of manufacturing jobs in the U.S., contributing nearly 3 percent of the U.S. gross domestic product. Suppliers directly employ more than 871,000 Americans, up 19 percent since 2012, and generate a total direct and indirect employment impact of 4.26 million jobs, up nearly 18 percent since 2012.¹

¹ “Driving the Future: The Employment and Economic Impact of the Vehicle Supplier Industry in the U.S.” MEMA and The Boston Consulting Group, January 2016. https://www.mema.org/sites/default/files/MEMA_ImpactBook.pdf



Vehicle Safety Today

Vehicle suppliers are dedicated to vehicle safety with the design and manufacture of their components and systems. To fully appreciate the state of vehicle safety today, over 50 years of crash data show that an estimated 613,501 lives have been saved by vehicle safety technologies and associated Federal Motor Vehicle Safety Standards (FMVSS).²

Today, there are many advanced safety features available in the vehicle marketplace ranging from passive to active systems that either warn, aid, and/or assist a driver to avoid or mitigate vehicle crashes. These technologies are mature, affordable, and effective. advanced driver assistance systems (ADAS) and vehicle-to-vehicle (V2V) technologies are the foundational systems upon which the more complex automated systems are built.

With over 94 percent of traffic crashes are the result of human error, the potential impact of ADAS, V2V and automated vehicles is wide reaching and unprecedented. Suppliers develop their components and systems with a forward-looking approach to make them increasingly more automated. Ultimately, the collective goal is to improve the safety, mobility, and productivity of all road users.

ADAS and the Impact on Safety

In 2015, MEMA and the Boston Consulting Group (BCG) released a report exploring the safety benefits of ADAS technologies, many of which are crash avoidance and mitigation technologies. Our study showed that ADAS can provide immediate safety benefits and form the pathway to a partially and fully automated vehicle fleet that could virtually eliminate traffic fatalities. The study found that a suite of ADAS technologies has the potential to prevent 30 percent of all crashes – a total of 10,000 lives saved annually.³

Highly Automated Vehicles

Today's ADAS technologies are the safety foundation upon which the highly automated vehicles of tomorrow are built. Recognizing that there are varying levels of automation, the vehicle industry worked through the SAE International to develop a standard to clearly define these levels. Using terms like "autonomous," "semi-autonomous," "self-driving," or "driverless" can be misinterpreted.⁴ Therefore, MEMA urges the Committee to use precise language and reference existing standards, such as SAE J3016, as it moves forward with automated vehicle legislation.

Last year the National Highway Traffic Safety Administration (NHTSA) announced its Federal Automated Vehicle Policy (FAVP), which is designed to establish vehicle

² NHTSA, "Lives Saved by Vehicle Safety Technologies and Associated Federal Motor Vehicle Safety Standards, 1960 to 2012: Passenger Cars and LTVs" [DOT HS 812 069](#), January 2015.

³ MEMA and BCG, "[A Roadmap to Safer Driving Through Advanced Driver Assistance Systems](#)," page 2, September 2015.

⁴ SAE J3016™ "Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles" January 2014.

performance guidance for automated vehicles, identify distinctions between federal and state roles, and to address current and future tools and authorities. NHTSA's Policy adopted the SAE levels of automated vehicles to establish a common nomenclature. MEMA applauded NHTSA for establishing an iterative process and developing this guidance as an appropriate approach for the rapidly evolving advances in vehicle technologies. MEMA did urge the Agency to make some important clarifications as soon as possible.

Among MEMA's priorities was the importance of differentiating between testing and the deployment of automated vehicles. NHTSA's Policy sought to impose on prototype test systems and vehicles the same reporting requirements as on production vehicles deployed for use by the general public. MEMA strongly recommended that the Policy be revised to provide a more appropriate set of recommendations for those companies that are only conducting testing. Federal legislation is needed to establish a national framework for all stakeholders to navigate the complexities of federal and state roles, automated vehicle technologies, and vehicle supply chains.

The trend in automated systems is accelerating. Many Level 1 and 2 systems are already available in the marketplace on new passenger cars and commercial vehicles as either standard or optional equipment. Level 3 automated systems are expected to be in production light vehicles as early as 2018. Level 4 and possibly Level 5 are forecasted to be more widely available by 2025.

MEMA wants to ensure that legislative and regulatory outcomes avoid unintended impediments to product design, enhancements, and innovative advancements in automated technologies. The benefits of these technologies are evolutionary; thus, the endeavor to tackle public policies while also balancing innovation is massive and requires the collaboration and cooperation among all public and private stakeholders.

Principles

With respect to the specific principles put forth by the committee, MEMA offers the following comments:

Safety: MEMA and its members agree that safety is the top priority in shaping automated vehicle legislation. Over 35,000 people lose their lives each year in vehicle crashes; suppliers are committed to the goal of zero fatalities, which requires continuous improvements to technological solutions. Automated vehicles will eventually reduce and eliminate vehicle collisions, fatalities, and injuries. MEMA supports federal leadership on and balanced oversight of vehicles and system standards as this technology evolves.

Promote Continued Innovation: MEMA agrees that legislation must provide stakeholders the latitude to continue to develop and evolve automated vehicle technologies and establish some certainties and clarify roles. In this regard, our leading priority is to include legislative language that affirms that motor vehicle equipment manufacturers and suppliers can test and evaluate automated vehicle systems on public roads.

Under Section 24404 of the FAST Act,⁵ vehicle manufacturers are able to test and operate vehicles that do not meet Federal Motor Vehicle Safety Standards (FMVSS), provided the vehicles are not offered for sale. However, this provision does not include vehicle equipment manufacturers (i.e. suppliers). MEMA raised this in our comments to NHTSA on the Federal Automated Vehicle Policy as well as in testimony at a November 15, 2016 hearing before the House Energy and Commerce Committee’s Subcommittee on Commerce, Manufacturing and Trade.

There are inherent and critical differences between automated systems that are being exclusively evaluated and tested by trained professionals versus automated systems that are intended for production and deployed to the general public. Vehicles used for the purposes of testing and evaluation are often modified, instrumented with test equipment, and driven by professional drivers who are typically trained by the company conducting the test evaluation. During the testing process, a system will be adjusted, refined, and re-adjusted – sometimes within hours and days, sometimes over a period of weeks and months. The ability for suppliers to utilize public roadways to collect data, refine systems, and fully test and evaluate new technology before systems are finalized is a critical industry need.

Suppliers are critical to the overall development and refinement of automated vehicle technology. If suppliers are not able to carry out this work in an independent manner, then it will impede and delay the evolution of the critical systems, artificial intelligence, human machine interface, and other advancements that are needed to bring the vision of automated vehicles to fruition.

In addition, motor vehicle suppliers should also be granted exemptions from FMVSS requirements for test vehicles. This is necessary to evaluate new systems as technology evolves and vehicle systems include more automated features, including but not limited to steering, braking, rear visibility, lighting, and other functions governed by FMVSS standards.

Technology Neutral: MEMA also agrees that automated vehicles will use diverse technologies with varying levels of capability; therefore, legislation should be technology neutral and not inadvertently pick “winners and losers.” Remaining technology neutral is aided by our earlier point to use standardized nomenclature. There should be a viable path forward for all levels of automation, including Level 3.

Separate Federal and State Roles: Another leading priority for suppliers is to enact, through federal legislation, a clear distinction between federal and state authority over automated vehicles. As the Committee’s principles indicate, this distinction is critical to prevent a conflicting patchwork of laws and rules governing the performance and operational requirements of automated vehicle technology, which should be regulated solely at the federal level. MEMA agrees with the NHTSA FAVP guidelines indicating that

⁵ Fixing America’s Surface Transportation Act of 2015, Public Law No: 114-94, Dec. 4, 2015

the state role should address licensing, registration, insurance, and traffic regulations. Some aspects of the FAVP's model state policy may unintentionally conflict with each other, but MEMA believes this could be resolved by federal legislation. States should not be able to dictate system and design requirements for motor vehicle equipment.

Cybersecurity: Cybersecurity is a top priority for vehicle manufacturers and suppliers. The industry has established an Automotive Information Sharing and Analysis Center (Auto-ISAC), which includes vehicle manufacturers and suppliers. The Auto-ISAC members work to share information on cyber threats, effective responses, and future countermeasures to minimize cyber-attacks. Suppliers and manufacturers are working together on vehicle architecture and design with cybersecurity in mind, including isolating critical vehicle safety operations (steering, brakes, acceleration) from cyber-attacks. As previously stated, MEMA agrees with the Committee that safety should be the top priority of legislation addressing automated vehicles. Cybersecurity should be considered a part of that priority. Congress should look to the practices of other industries, such as aviation, for developing safety critical cybersecurity protections and determine how best to encourage industry, regulators, and other stakeholders to work together to protect consumers.

Conclusion

MEMA is committed to working with the Committee in support of automated vehicle technology, and we share the Committee's principles as it considers legislation. Our key priorities remain securing authority for motor vehicle suppliers to test systems and vehicles on public roads in the U.S. and establishing a clear distinction between federal and state roles in regulating highly automated vehicles.

We appreciate the collaborative approach the Committee has undertaken and we look forward to continuing to work with you. Please contact Ann Wilson, senior vice president of government affairs, at awilson@mema.org or 202-312-9246 for additional information. Thank you.

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