



AUTO ALLIANCE
DRIVING INNOVATION®

STATEMENT
OF
THE ALLIANCE OF AUTOMOBILE MANUFACTURERS

BEFORE THE:
**THE HOUSE JUDICIARY SUBCOMMITTEE ON THE COURTS,
INTELLECTUAL PROPERTY AND THE INTERNET**

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PRESENTED BY:

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President and CEO

On behalf of the Alliance of Automobile Manufacturers and its 12 automakers, I thank you for the opportunity to testify today on the Internet of Things and the importance of connectivity in advancing road safety, energy efficiency, environmental protection and mobility.

Today, automakers have gone beyond simply manufacturing cars; they are high tech companies, too. Nine automakers, along with three suppliers, have opened labs in Silicon Valley. And, automakers now showcase their latest technologies at the annual Consumer Electronics Show, where each year the automotive exhibit space – along with the consumer interest – grows.

Automakers are driving innovation through deep investments in research and development. Recently, the Boston Consulting Group found that half of the world's "Most Innovative Companies" are automakers, with nine auto manufacturers in the top 20. In fact, more automakers made the list than technology and telecom companies. Globally, automakers invested more than \$100 billion on R&D in a single year, according to the latest figures from 2013. And that is four times what the entire global aerospace and defense industry invested (\$25.5 billion) in that year.

For the automobile industry, technology and connectivity are ushering in a golden age in mobility. We have seen enormous safety gains in recent years. Government data show this is the safest time in our nation's history in terms of motor vehicle safety. Road fatalities are at their lowest since 1949. Traffic-related crashes declined by 18,000 from 1980-2002, even with more licensed drivers on the road traveling more miles.

Historically, automakers have focused on engineering vehicles to enhance occupant protection in the event of a crash. That's why automobiles today have a range of airbags and specially engineered crumple zones.

But the future of vehicle safety is technologies that help prevent or mitigate crashes. Driver error remains the primary cause of more than 95 percent of crashes, according to the National Highway Traffic Safety Administration (NHTSA). Crash avoidance, or "driver assist," technologies employ sophisticated software to interpret data from sensors, cameras, or radar-based technologies that allow vehicles to sense the environment around them and assist drivers to become aware of impending dangers. There many different types of driver assists, including intervention technologies such as electronic stability control and anti-lock brakes, warning technologies such as blind spot warnings and lane departure alerts, and adaptive cruise control and automatic high beams that help drivers in specific situations.

Connected vehicles may help to enhance or enable a host of critical crash-avoidance technologies. According to NHTSA, connected vehicle technology could potentially mitigate or eliminate up to 80% of crash scenarios involving non-impaired drivers. That is why both automakers and the government are investing hundreds of millions of dollars in research, development and testing of connected vehicle technology also referred to as Dedicated Short Range Communications (DSRC).

The phrase “connected car” can mean different things to different people. For the auto industry, when the car moves from being a closed box to a “mobile device” with the ability to gather data and communicate it, that is a “connected car.”

In our digital world today, drivers want to be seamlessly connected to the web and all its functionality, including social media, communications, music, navigation and a range of transportation-related content. These are important to consumers, but connectivity in the car can do so much.

Connectivity can help reduce the potential of crashes by getting information on real-time risk factors outside the vision of the driver – or the electronic eyes of the car. This connectivity refers to the exchange of information either among vehicles (V-to-V) or information between vehicles and infrastructure (V-to-I).

Imagine the benefits from cars able to communicate with each other and the road way. Vehicles encountering slippery roads can send messages to cars behind them to slow down. Likewise, a connected driver can know that a car is speeding toward an intersection or stopped over the next hill and take countermeasures.

The future of driving safety is bright with promise, and with the right public policies put in place to support connectivity, industry and government, through working together, can advance safe mobility. Getting there will require many pieces of a large puzzle to fit together in addition to technological advancements, including consumer acceptance and achieving critical mass to enable the “network effect.”

Consideration must be given to the necessary legislative and regulatory framework needed to spur development and adoption of advanced technologies. A patchwork of state laws will negatively impact the speed and trajectory of the technologies adopted. Federal leadership is needed to establish a single, long-term national vision for personal transportation in the future.

Finally, complex legal issues associated with cars and trucks capable of operating with increasing levels of automation need to be addressed. These include insurance underwriting and liability issues.

We are pleased with the great vision of this Committee in focusing today on the future. Like you, we share the goal of ensuring the public policy pillars necessary to achieve the full safety value of connectivity and other technological advances be identified and protected.

We believe four pillars of policy are central to maximizing safety through technology in the future: 1) protect the spectrum; 2) invest in infrastructure; 3) ensure consumer acceptance; and 4) maintain vehicle affordability

Protect the spectrum: The most vital pillar is ensuring that the radio frequency spectrum now dedicated to V-to-V and V-to-I, or the 5.9 GHz band, remains solely dedicated to auto communications technologies or any solutions involving sharing maintain the integrity of DSRC. When vehicles are driving at highway speeds, communications must occur virtually instantaneously, without delay and without interference. At the same time that DOT is considering mandating DSRC technology, the FCC is considering whether to open this portion of the spectrum for use by unlicensed wireless devices. It's important as we move forward that regulators be certain that unlicensed users would not compromise the integrity of this vital safety initiative. We think the FCC should adopt a "do-no-harm" position until thorough testing is completed and all parties are certain that the spectrum can be shared without interference with safety critical systems. Importantly, auto manufacturers are moving forward with our supplier partners, Cisco and Denso, to test a potential technological solution that will allow DSRC communications without harmful interference from unlicensed devices. We look forward to sharing our results with the appropriate federal agencies and Congress.

Invest in infrastructure: The second pillar is building out the infrastructure for the V-to-I component of connectivity. Surely this will be a gradual process, but we need the vision and motivation to begin planning today. As is the case with a range of technologies, such as alternative powertrains for environmental gains, infrastructure investment is essential to achieving the maximum safety benefit and inducing buyers to purchase the V-to-I communications functionality.

Ensure consumer acceptance: The third pillar is proactively responding early to consumer acceptance by addressing public concerns about deployment potential. If the advent of connected vehicle technology exposes drivers and owners of equipped vehicles to loss of privacy, security breaches, and/or increased legal liability in the form of automated law enforcement, we will not realize the many benefits that can be gained by its widespread deployment. Similarly, connected and automated vehicle systems entail interactive technologies for which successful outcomes depend not only on drivers' correct response to alerts and information, but on multiple entities in both the public and private sectors correctly and consistently performing their respective portions of the connected enterprise. This creates new

and unprecedented challenges to managing long-term liability which require up-front policy solutions.

Maintain vehicle affordability: The fourth pillar is public policy dedicated to keeping cars and light trucks as affordable as possible by leveraging market forces and utilizing a data-driven approach to regulation if and when needed. The best technology in the world can only help if families are able to replace their old cars with new vehicles. Today, the average age of a car is 11 years old, and we only replace about 6% of the U.S. car park every year. When the safety and environmental benefits of new cars relative to old cars are sizeable, the public policy imperative must be to avoid the temptation to mandate and instead facilitate choices by families in the marketplace. Policies that discourage the purchase of these new technologies should be avoided. As a matter of public policy, we need to encourage the “virtuous cycle of new car ownership.”

Finally, we recognize that connectivity in vehicles also may raise questions about privacy and cyber protections. The auto industry is already taking action in both areas.

Last year, the auto industry became the first industry in the Internet of Things to adopt a comprehensive set of Privacy Principles to protect vehicle owners. These Principles have a strong lineage, building on the Fair Information Practice Principles, FTC guidance, the White House Consumer Privacy Bill of Rights and the suggestions of privacy advocates. The principles address transparency, respect for context, data security, choice and more. For the most sensitive types of consumer information, including geo-location, driver behavior and biometrics, the Privacy Principles require clear and prominent notice about the collection of such information, the purposes for which it is collect, and the types of entities with which the information may be shared. These Principles can be viewed at www.AutomotivePrivacy.com, where a list of the 20 leading automakers who voluntarily signed on to them can be found.

Similarly, automakers are working to get ahead of potential threats posed by malicious hackers. Automakers recently announced the formation of an Automotive Information Sharing and Analysis Center (Auto-ISAC). The new Auto-ISAC, planned to begin operation before the end of the year, will establish an industry-wide portal for sharing information about existing or potential cyber threats and vulnerabilities.

In addition, automakers work with many different groups to advance cybersecurity. These relationships help automakers develop vehicle-specific security technologies and practices. This summer, automakers are participating in events with the cybersecurity community like the annual Battelle-SAE International CyberAuto Challenge and the DEF CON and Black Hat Conferences. Recently, the Alliance joined the US Chamber of Commerce’s Cybersecurity Leadership Council, a committee of 20 different industry organizations formed to focus on current and emerging best practices.

Finally, there are several government-wide vehicle-specific cybersecurity initiatives, including research activities undertaken by NHTSA's Electronic Systems Safety Research Division, and the Department of Homeland Security's (DHS) Science and Technology Directorate.

We are entering the golden age of mobility through technology and connectivity. A top policy priority for our country is finding smart ways to put more new vehicle technologies on our roads, because more rapid adoption of these new technologies will help keep drivers safer, avoid traffic congestion, save time, save money and reduce fuel use too.

In an Internet of Things world, where connectivity offers the promise of monumental societal benefits, getting to the future as fast as we can is critical.

Many thanks for this chance to share our perspective.