

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
)	WT Docket No. 21-195
Impact of the Global Semiconductor)	
Shortage on the U.S. Communications Sector)	
)	

COMMENTS OF THE ALLIANCE FOR AUTOMOTIVE INNOVATION

The Alliance for Automotive Innovation (“Auto Innovators”) hereby submits the following comments in response to the Federal Communications Commission’s (“Commission”) Public Notice in the above-captioned proceeding. Auto Innovators appreciates the engagement of the Commission on this critical supply chain issue and welcomes the opportunity to provide input.

I. INTRODUCTION

Auto Innovators is the singular, authoritative, and respected voice of the automotive industry. Focused on creating a safe and transformative path for personal mobility, Auto Innovators represents the manufacturers that produce nearly 99 percent of cars and light trucks sold in the United States. Members of Auto Innovators include motor vehicle manufacturers, original equipment suppliers, technology companies, and others within the automotive ecosystem. The auto industry is the nation’s largest manufacturing sector and contributes \$1.1 trillion to the

United States economy and represents 5.5 percent of the country's GDP. As a significant engine for our nation's economy, the auto sector is responsible for 10.3 million jobs and \$650 billion in paychecks.

II. THE AUTO INDUSTRY HAS BEEN UNIQUELY AND SIGNIFICANTLY IMPACTED BY THE CURRENT SHORTAGE

Unfortunately, the auto industry and its vast workforce have been uniquely and significantly impacted by the current semiconductor shortage. The shortage has forced automakers to halt production and cancel shifts in the United States, with serious consequences for their workers and the communities in which they operate. An anonymized survey of its members that Auto Innovators has been conducting since the onset of the chip shortage reveals that the projected impact on U.S. production in 2021 is growing. In fact, current estimates are that more than 1 million fewer vehicles will be produced in the U.S. this year. The survey also reveals that there is no clear end in sight for the shortage and that production will likely continue to be impacted for at least 6 more months. Reducing the severity and longevity of the microchip shortage for the auto industry to protect American jobs and minimize the negative impact to the broader economy remains Auto Innovators' top priority.

Semiconductors are currently used in a wide and growing variety of automotive electronic components that perform vehicle control, safety, emissions, driver information, and other functions. Importantly for the Commission, the technologies that are facilitating the transformation to a cleaner, safer, and smarter future – including automation, advanced safety and environmentally-focused features, innovative connected services and applications for drivers and passengers, and new mobility models - are enabled or enhanced through connectivity and are highly dependent on semiconductors.

For example, Wi-Fi and Bluetooth technologies allow consumers in vehicles to stay connected as they travel. Cellular technologies enable in-vehicle services that provide important information and safety services to drivers and passengers. RF transmitters allow for tire pressure monitoring and support remote keyless entry and ignition systems. Radar technologies underpin cutting-edge advanced driver assistance technologies and are being integrated into vehicles to support new occupant safety features. And V2X technologies are poised to enable next-generation cooperative crash avoidance systems. With the increased incorporation of these connected technologies into modern vehicles, there is no doubt that auto production will be increasingly reliant on access to semiconductors. Without a sufficient and reliable supply of semiconductors, automakers may be forced to reconsider integration of these innovative technologies, including those that enhance safety, into vehicles.

While many automotive technologies rely on mature node chips, communications-based technologies that are being integrated into vehicles often rely on advanced node chips. However, these advanced node chips must still meet distinct quality, reliability, and functional safety requirements for automotive applications. For example, AEC-Q100 reliability and quality standards include support for ambient operating temperatures ranging from -40 degrees Celsius to 105 degrees Celsius and other specified stress tests for the unique conditions in which vehicles operate. In addition, chips for automotive use are made in facilities that have an IATF 16969-certified supply chain management system to prevent defects and reduce variation. Finally, automotive grade chips meet various ISO 26262 functional safety requirements.

III. THE CURRENT SEMICONDUCTOR SHORTAGE HAS EXPOSED CAPACITY LIMITS AND TRANSPARENCY CHALLENGES

The current semiconductor supply chain crisis has undeniably exposed overall capacity limits in the semiconductor sector and revealed significant risks in the current automotive semiconductor supply chain. There is a clear need to expand semiconductor capacity to meet the growing demand for semiconductors in the auto industry and across the economy. Policies that can incentivize this additional capacity in the United States are essential to addressing the longer-term challenges.

For this reason, Auto Innovators strongly supports full and robust funding for the programs authorized under the *CHIPS for America Act*. In addition, since new foundries take years to build, Auto Innovators also recommends that policies be implemented that support increased chip capacity in the mid-term. This includes enactment of a semiconductor manufacturing investment tax incentive which can help companies offset the cost of creating new lines within existing facilities or reallocating current production to meet evolving needs.

Given the importance of chips to current auto production and future automotive innovation, it is however critical that federal programs focused on increasing domestic capacity of semiconductors benefit all impacted industries and their workers, and not just some sectors that are focused on the most advanced, leading edge nodes. At least some portion of the funding from these federal programs should be used to build new capacity in the United States that will support the auto industry and its workers, as well as other sectors that rely on mature nodes.

The current semiconductor crisis has also revealed an opportunity to increase transparency within the semiconductor supply chain. Increased transparency on both the supply and demand side can enable better and more effective business planning for semiconductor and automotive companies seeking to manage the current shortage and mitigate future shortages. Auto Innovators

is committed to working with the Administration and other stakeholders to improve semiconductor supply chain transparency.

IV. CONCLUSION

Auto Innovators welcomes the Commission's focus and attention to this important issue. We look forward to working with the Commission to ensure that the auto industry in the United States continues to lead the world in innovation and in building a cleaner, safer, and smarter transportation future.

Respectfully submitted,

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