COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
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"STEM and Computer Science Education: Preparing the 21st Century Workforce"

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Written Testimony

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Chairwoman Comstock, Ranking Member Lipinski, and other distinguished members of the Subcommittee, thank you for the opportunity to participate in this important discussion today.

My name is Dee Mooney and I work for the Micron Technology Foundation. Micron is a leading, worldwide memory and semiconductor company. Our memory technology is in the things you use every day—from smartphones to laptops to connected cars. This technology is increasingly critical given the exponential growth of data worldwide and the need to access, store and manage that information.

While we compete in a global marketplace today, our company was started by four visionaries in the basement of a dental office in Boise, Idaho in 1978 – reflecting the American ideals of ingenuity, grit and innovation. Today we're nearly 39 years, 18 countries, 26,000 lifetime patents, and more than 30,000 people strong.

As you might expect, this level of innovation requires a robust and talented workforce, especially in the STEM areas of science, technology, engineering and math. This is a very passionate topic for us. I'm sure you've heard statistics about the shortage of STEM talent, unfilled current and future roles, and wages that nearly double the average of other occupations. This underscores our belief that supporting STEM education is critical to cultivating tomorrow's technology leaders – both to add to our talented team and to advance our industry and the American economy at large.

Advancing STEM education requires investment now and a persistent focus on future workforce needs as we continue to innovate and technology evolves. Today we see considerable gaps in talent within our local communities, whether it is the ability to hire either the volume or caliber of electrical and computer engineering roles needed or having to source industrial engineering candidates outside of our region.

We also struggle with finding qualified computer science candidates. While Micron is a semiconductor manufacturer, we rely on skilled programmers to develop product firmware and

build software for several tools throughout our manufacturing operations, in addition to several other needs. Depending on the role, our workforce needs range from technicians to Ph.D.s, and may require niche application or specific computer language expertise. Unfortunately, we regularly see a lack of available talent with these requisite skills and experience, which is even more pronounced when we seek to fill business intelligence, data scientist, and data engineering roles as well as most aspects of information security and cybersecurity.

This makes our collective efforts more important than ever. Understanding where the gaps are today can help us plan for the future, however we need to remain flexible. We must also keep in mind that nearly every role in the near future will benefit from a strong background in STEM education, given how quickly technology has integrated into all aspects of our lives.

The Micron Foundation was created by Micron nearly 20 years ago, in part, to inspire the next generation of innovators and address the workforce pipeline issue with a focus on STEM. Since our inception, the Micron Foundation has contributed $88 million in giving to improve access to STEM education, and to invest in the local communities where our team members live and work. My role at the Micron Foundation focuses on creating and supporting opportunities in all levels of education, especially in area schools and communities where we have a major presence, both in America and in our operations across the globe.

As a result, we work with universities, K-12 schools and nonprofits all over the world. Not far from Washington D.C. sits our Manassas, Virginia location – where we committed nearly $450 thousand dollars in grants this year to support STEM education and the community. There we work with public schools to provide for robotics programs, engineering camps, teacher grants, invention programs, scholarships and more. We also partner with Virginia universities to support student engineering projects, professor research, and state-of-the-art facilities such as the newly renovated lab space at George Mason University's Science and Tech campus.

Northern Virginia faces a critical shortage of skilled workers in STEM fields, so we have partnered with the Northern Virginia Community College's SySTEMic Solutions program. This pipeline development program engages students in elementary school and inspires them to continue to pursue STEM education in high school, college and the workforce through a collaboration with schools, businesses and community organizations.

Our investment in Virginia spans the last 14 years and has provided more than $4.5 million in funding, including nearly half a million for this year alone.

In Idaho, the story is similar, where we support educators and students through outreach and grants. This includes hosting a free, hands-on science camp for junior high students to explore robotics, VR, 3D printing and the latest technology developments each year. We recently expanded this program to one of our California locations and plan to expand it to other communities. We also take these lessons a step further into shaping future careers with our Girls Going Tech and Women in Technical Careers speaker series, or Careers in a High Tech World program. Our focus is to enable students to envision all of the potential careers, experiences and opportunities a STEM education has to offer.

Computer science plays a significant role within STEM, accounting for many of the fastest-growing occupations in this area. We are seeing this firsthand in Idaho, where a shortage of

workforce talent is bringing together our legislative, education and industry leaders to address this challenge.

During the 2015 Idaho legislative session, this visionary group of stakeholders helped create the Idaho STEM Action Center to develop unique grant, training, professional development and student opportunities aligned to Idaho's workforce needs from kindergarten through career. The Center is guided by a nine-member, Governor-appointed Board with educational leaders from the State Board of Education and the State Department and seven Idaho industry leaders including the Idaho Department of Labor, the Idaho Department of Commerce, Idaho National Laboratory (INL) and Micron.

This has paved the path for a computer science initiative passed by our state legislature last year that improves computer science awareness and access at all levels of education. Idaho subsequently became the first state to partner directly with code.org to offer its courses to teachers across the state at no charge to them or their schools.

To us, this represents the type of collaboration and initiative needed to keep America on pace and beyond in a very competitive global economy. We certainly experience this every day with our operations and competition around the globe. If we want to keep our economy strong, vibrant and competitive, we need this type of collaboration and leadership from elected officials, educators and industries. That starts by supporting an educated workforce that can compete tomorrow and well into the future.