

Lucas Opening Statement on American Competitiveness in Science and Technology

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Opening Statement

Thank you, Chairwoman Johnson for holding this important hearing on “Maintaining United States Leadership in Science and Technology.”

Science and technology are essential to America’s national defense and economic security.

Our nation’s founders understood that science was fundamental to our nation’s ability to prosper. Article I of the Constitution gave Congress the power “to promote the Progress of Science.”

Americans are pioneers and this spirit has always driven our support for science. In 1862, President Lincoln signed a land-grant bill to fund a system of industrial colleges, one in each state, that conduct valuable research.

I am a proud graduate of one of those land grant institutions. He also signed the charter that would create the National Academy of Science.

The 1930s, 40s and 50s saw exponential increases in our scientific capabilities and the creation of the National Science Foundation, NASA, the Department of Energy and the national laboratories.

Basic research forms the foundation of discoveries that fuel private sector development and commercialization. It also provides a training ground for our nation’s scientists, engineers, and other STEM workers. Companies across the country are desperate for workers with the skills to fill 21st Century jobs.

The United States is the world’s largest Research and Development (R&D) investor. U.S. Government and industry spent a combined \$511 billion in 2016, generating over \$860 billion for our nation’s economy while supporting over 8 million jobs.

The basic research our government supports is foundational to our economic success. It allows us to stay at the forefront of cybersecurity, medical treatments, agricultural production, and technological exports.

Government-funded research is translated into technology that improves our lives on a daily basis.

For example, government supported research has given us a better understanding of the relationship between food production, water, and energy, making agriculture more productive. That benefits the farmers and ranchers in my home state of Oklahoma, of course, but it also improves our food supply and reduces consumer food prices.

A gene editing technique that allows for precise interventions may revolutionize health care by treating genetic disorders and creating targeted cancer therapies. It also has potential for to improve our food supply by enhancing crop production and improving livestock health.

Americans in every part of the country can access high-performing wireless networks thanks to NSF-funded research which provided the basis for 4G wireless communications.

And Mammoth Trading – an online market system to lease water rights – grew from NSF-funded research on groundwater pumping rights. Farmers now enjoy better risk management tools, lower costs for water reallocation, increased productivity and improved water sustainability.

I could go on and on, but I think it's clear that America's technological supremacy is a pillar of our economy.

Unfortunately, our dominance is under threat. China is narrowing the gap and may surpass the United States in total R&D spending this year.

I believe the federal government has a responsibility to prioritize basic research and development.

This is not an easy task as we face enormous budget challenges. But it can be done. On a bipartisan basis this year Congress supported \$151.5 billion in Fiscal Year 2019 for federal R&D, a 6 percent increase and the highest point ever in inflation-adjusted dollars.

As the Ranking Member of the House Science, Space, and Technology Committee I am committed to working with Chairwoman Johnson and the appropriators to continue to meet this challenge.

To achieve this however, I believe we need to collectively do a better job of explaining why science matters to all Americans. We need to break down the barrier between the ivory tower of academia, the hallways of Silicon Valley, and the Main Street of Cheyenne, Oklahoma.

My family has lived and farmed in Oklahoma for over 100 years. When I look out my front porch, I see a living laboratory of what science has done to improve American life--from the disease-resistant wheat that grows on my farm, to the vaccines that keep our cattle healthy, to the wind turbines on the horizon that provide a third of the State's electricity.

These are real, tangible ways that science and technology have made our lives better. And they would not have happened without the long-standing government, academic and industry scientific ecosystem that is the envy of the world.

I look forward to hearing from our distinguished panel of witnesses about how we can work together to meet this challenge and ensure America continues to lead in technological advancement.