

FRANK LUCAS

# A Next-Generation Strategy for American Science

During my tenure in Congress, where I've represented Oklahoma's third district since 1994, I've had the privilege of serving on three committees and working closely with many more. Of these committees, the House Committee on Science, Space, and Technology does not have the highest profile, but it does have one of the most important portfolios. That's because the work done by this committee goes further than addressing the challenges we face today—it paves the way for our long-term development as a nation.

America's economic strength, national security, and our quality of life all fundamentally depend on our ongoing scientific progress. In fact, more than 60% of America's economic growth in the last century is due to advances in science and technology. US public investment in research and development adds nearly \$200 billion in economic value, and basic research in particular increases long-term productivity across multiple industries.

The committee's work this year will center on supporting US scientific progress and combatting threats from the Chinese Communist Party (CCP).

The CCP recognizes that science and technology form the bedrock of America's global leadership and is determined to overtake us in these fields. In recent years, China began investing heavily in R&D. Now they are outpacing us by graduating more science, technology, engineering, and mathematics PhD students and publishing more scientific papers. What's more

troubling, however, are the CCP's attempts to steal the results of our R&D through cyberattacks, forced intellectual property transfer, and malign recruitment initiatives such as the Thousand Talents Program, which aims to convince foreign-trained scientists to bring their skills, knowledge, and connections to China.

Should the United States lose its position as the global leader in science and technology, there will be grave consequences for the economy and national security. The House Science Committee is working to ensure that won't happen.

When I became ranking member of this committee in 2019, finding a way to retain global leadership became one of my first tasks. I introduced the Securing American Leadership in Science and Technology Act—comprehensive legislation to double down on US investment in basic research and create a national strategy for scientific development.

With this bill as a blueprint, the committee began to draft bipartisan legislation to advance America's scientific and technological capabilities. There were a number of bumps along the road, but two years later, many of the ideas we first laid out in 2020 were passed into law as part of the CHIPS and Science Act.

When I talk about that bill, I like to point out that while the funding for semiconductor chip production is going to build factories today, it's the "science" portion of the legislation that will be the engine of America's economic development for decades to come.

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Central to all the investments and modernizations in the CHIPS and Science Act was the creation of a National Science and Technology Strategy. Our committee directed the White House Office of Science and Technology Policy to develop a comprehensive strategy for America's scientific and technological development every four years.

The national strategy ensures a comprehensive, whole-of-government approach to R&D, which will improve coordination between federal agencies and provide a more thoughtful approach to prioritizing resources. It will ensure that government time, energy, and funding for federal R&D will be focused on the most important challenges facing the country. And, given the increased funding being allocated to federal R&D, this strategy is necessary to maximize the return on our investments and make good use of taxpayer dollars.

In Congress, we'll be focusing on this strategic approach to supporting American competitiveness. While the committee will approach this challenge in many ways, there are three upcoming areas of policymaking that will be critical to our efforts to strengthen American science: unmanned aerial systems, enhanced weather forecasting, and human space exploration.

One area of technology where America is lagging behind China is in unmanned aerial systems, commonly called drones. A single Chinese firm has 90% of the market in drones used for public safety in the United States, as well as 80% of the recreational market. In 2021, the Department of the Treasury identified the company as tied to the "Chinese military industrial complex." The implications for US privacy and security are staggering. Our committee will be considering legislation that will bolster the domestic drone industry by supporting research, development, deployment, and manufacturing here in the United States.

Another area of focus will be on strengthening the National Oceanic and Atmospheric Administration (NOAA). Created by executive order in 1970, NOAA does important work in a range of areas including weather prediction, remote sensing, and climate monitoring. Despite supporting more than one-third of the US economy, NOAA has never been established in law. It is high time we rectified that. We are drafting legislation that codifies NOAA's critical mission in law and stands it

up as an independent agency. It will also promote scientific integrity and critical research within the agency, refocusing work on NOAA's core missions.

Finally, the committee will work to reauthorize NASA this year. The space agency hasn't had a comprehensive authorization bill since 2017. This bill will help to focus NASA's work on critical missions as we enter a new era of space exploration. This includes the Artemis program, which will return humans to the Moon for the first time in 50 years. And this time, we'll do more than just visit—we're going to stay. We'll be building habitats and research stations, and we'll use the Moon as a springboard for crewed missions to Mars.

Space exploration produces valuable knowledge of our universe, but it also has important effects on US international competitiveness. The goal of being the first to establish a presence on the Moon is not about beating other countries for bragging rights—it's about ensuring that humanity's off-world presence is grounded in democratic principles of fairness, openness, and equality. We don't want authoritarian regimes to lead the process of humans colonizing space.

Beyond geopolitical concerns, there are other reasons to make sure the Artemis program is moving along. Space exploration is incredibly complicated, and nearly every step presents new challenges and the need to develop new technologies to address them. Those innovations are crucial to our economic growth—they can be commercialized and adapted to improve manufacturing, health care, and consumer products.

The other reason to return to the Moon is less tangible, but no less important. I have a vivid memory of watching the Moon landing as a 9-year-old boy in Oklahoma. It was inspiring, and it helped me and countless others in my generation see a future filled with new possibilities. Through the Artemis missions, my youngest granddaughter is going to see the first woman set foot on the Moon, and my hope is that it will inspire her and her peers to do great things. If our support of American research and development helps to leave her generation with a better world, filled with new technologies, exciting jobs, a bright future, and an amazing off-world view of the Earth, then I will have done my job as chairman of this committee.

**Frank Lucas** (R-OK) is chairman of the US House of Representatives Committee on Space, Science, and Technology.