



COMMITTEE ON
SCIENCE, SPACE, & TECHNOLOGY
Lamar Smith, Chairman

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Statement from Chairman Lamar Smith (R-Texas)

Markup of H.R. 6227

Chairman Smith: Sixty years ago, the first commercial computer was almost the size of this room. Today we hold more computing power in our hand with an I-phone.

Just as classical computing redefined the 20th Century, quantum is poised to redefine the next generation of scientific breakthroughs.

Conventional computing uses a series of tiny, electronic on-off switches within a processing chip. Technological advances have made possible supercomputers that can perform series of on-off operations at astonishing speeds. But classical computing technology is nearing its limits.

Quantum computing is different. Quantum computers rely on “q-bits.” These are subatomic particles that are both on and off at the same time.

This will enable quantum computers to perform complex calculations at speeds that are potentially millions of times faster than today’s most advanced supercomputers.

Quantum will create exciting new opportunities in areas like cyber security, medicine, communications, financial services and transportation.

But the potential threat to America’s security is sobering. The nation that develops quantum communications technology first may be able to decode—in a matter of seconds—other countries’ sensitive national security information, proprietary technologies and personal information.

Last October, the Science Committee held a hearing on “American Leadership in Quantum Technology.” Experts testified that as other nations around the world are rapidly advancing quantum programs, the United States faces the threat of falling behind.

China and the European Union are investing billions of dollars in new research facilities and equipment for quantum computing. China, in particular, has stated publicly its national goal of surpassing the U.S. during the next decade.

Now is the time to compose a national quantum strategy and preserve America's dominance in the scientific world.

The National Quantum Initiative Act will meet these challenges by forming a 10-year program to advance quantum science development and technology applications in the United States.

The bill leverages the expertise and resources of U.S. industry, academia and government to move quantum information science to the next level of research and development.

The legislation establishes a National Quantum Coordination Office within the White House Office of Science and Technology Policy.

The office will oversee interagency coordination and strategic planning, serve as a central point of contact for stakeholders, conduct outreach and promote commercialization of federal research by the private sector.

The bill also supports basic research, education and standards development at the National Institute of Standards and Technology, the National Science Foundation, and the Department of Energy.

\$225 million a year of these agencies' baseline funding will now be directed to new quantum research centers and laboratory research. Their activities will address fundamental research gaps, create a stronger workforce, and develop revolutionary knowledge and transformative innovations to give U.S. companies and workers an enduring competitive advantage.

The bill ensures that U.S. high-tech companies, which are investing heavily in quantum research, and a surge of quantum technology start-ups will contribute their knowledge and resources to a national effort.

H.R. 6227 was developed with input from industry, academia, National Laboratories, federal agencies and the administration. It was an open and bipartisan process.

The input of those stakeholders has yielded a good consensus bill.

We have received broad support, including letters from the National Photonics Initiative, the Quantum Industry Coalition, IBM, Intel, Google, Harris Corporation, Yale, Harvard, the University of Maryland and the Optical Society.

I thank Ranking Member Johnson for joining me in introducing this bill, and the many members of the committee who have signed on as original co-sponsors.

I would also like to acknowledge that Senator Thune and Senator Nelson, the Chairman and Ranking Member of the Senate Commerce Committee, have introduced a companion bill in the Senate. With bipartisan, bicameral support and the backing of the administration, I believe this bill could become law by the end of the year.

Winning this scientific race requires a new moonshot for the 21st Century. This bill will align ongoing federal, academic and private sector research for a quantum leap in the right direction.

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