

# Congress of the United States

## House of Representatives

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### Ranking Member Shontel Brown

#### Subcommittee on Cybersecurity, Information Technology, and Government Innovation

#### “Preparing for the Quantum Age: When Cryptography Breaks”

#### June 24, 2025

Thank you, Chairwoman Mace, for calling a hearing on this important topic.

Ensuring that Americans’ data is safe is a top priority. That is why I’m proud to have introduced the Electronic Consent Accountability Act with Chairwoman Mace today. This bipartisan bill would ensure federal agencies are modernizing and simplifying electronic consent while protecting their personally identifiable information.

But safeguarding data doesn’t stop with consent alone; it also depends on the strength of the technology behind the scenes to protect that information.

For decades, encryption technology is something that governments, companies, and private citizens alike have relied on to protect our text messages, passwords, documents, financial transactions, and so much more from hackers, leaks, and bad actors.

Originally, it was believed it would take the best supercomputers millions of years to crack the codes that we use to protect our data and privacy. But then came quantum computing.

**While we are still an estimated 10 to 20 years away from a quantum computer that is able to decode the encryption technology that we currently use, we must prepare for the day when our current encryption methods fall before the power of the next generation of machines.**

This is not a theoretical problem—foreign adversaries like China and Russia have already started what’s called “steal now and decrypt later” attacks, in which they steal as much of our encrypted data as possible. When they crack the code of quantum computing, they’ll already have vast troves of sensitive, secret data from the American people and the federal government at their fingertips, ready to unlock and exploit.

**Given the risks to privacy and national security, we must invest to keep the United States a global leader in quantum computing and to prepare the federal government for the quantum computing age.**

In 2022, the Biden-Harris Administration implemented the National Security Memo on “Promoting United States Leadership in Quantum Computing While Mitigating Risks to Vulnerable Cryptographic Systems.”

This memo gave a blueprint to prepare government technology for a post-quantum future. This is not a quick fix, but it began the process of upgrading federal IT systems vulnerable to quantum decryption. It is essential that we keep that momentum going.

Researchers at universities and laboratories across the country have demonstrated that quantum computing is real and can solve problems that traditional computers struggle with.

In 2023, I attended the unveiling of the first onsite private sector quantum computer in the United States at the Cleveland Clinic, the first time anyone in the world had applied a quantum computer to be wholly focused on health care research. Today, that machine is at work helping the Cleveland Clinic accelerate scientific breakthroughs to save lives and improve treatments.

From fiscal year 2019 through fiscal year 2022, Congress allocated more than \$2 billion in research and development across multiple departments and programs to study quantum capability and to harden our systems against quantum-ready adversaries.

The National Institute of Science and Technology (NIST) has approved three cryptography standards for the post-quantum world, and we need to provide the funding necessary to implement these standards government-wide to safeguard privacy and security.

**Investing in U.S. leadership in quantum computing also means investing in basic research, educating top talent, and the other essential building blocks of scientific advancement.**

**For decades, federal funding has been a vital tool in positioning the United States as a leader in innovation.**

We take for granted GPS, voice assistants, and the touch screens that we use every day, but each of these technologies was developed thanks to foundational research funded with federal dollars.

**Despite the clear importance of federal science funding to our national security and economic prosperity, the Trump Administration has cut this funding to its lowest levels in decades, while our country faces unprecedented global competition in science and technology.**

This includes \$700 million dollars in cuts to National Science Foundation grant program and \$879 million dollars in cuts from new and existing STEM education grants.

**President Trump's budget request asks Congress to slash the NSF budget by more than half. Experts say this could amount to the same level of long-term damage to the U.S. economy as a major recession.**

I look forward to our conversation today on how we can best prepare the country for quantum computing and post-quantum encryption, but it would serve everyone here to remember that America is only able to lead and benefit from scientific advancements because of federally funded scientific research. We must continue to make it a priority to do so.

And with that, Madam Chair, I yield back.

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