

Reauthorize the National Quantum Initiative Act



**NATIONAL
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INITIATIVE**

Quantum information science & technology (QIST) is critical to our economic and national security, holding tremendous potential for cybersecurity, medicine, advanced communications, financial services, transportation, and more. Continuing to fund this important R&D area will ensure that we maintain our lead in the field and address workforce needs in this future industry. The nation that leads in quantum will have a huge advantage in other key emerging fields, including artificial intelligence and synthetic biology.

The **National Quantum Initiative (NQI) Act**, which was approved with overwhelming bipartisan support and signed into law by President Trump in December 2018, established the coordination framework for government agencies to expand QIS R&D. Specifically, it created a 10-year program to advance quantum development and technology applications by:

- **Establishing a whole of government approach** to move QIS to the next level of research and development.
- **Establishing a National Quantum Coordination Office** within the White House Office of Science and Technology Policy to oversee interagency coordination, provide strategic planning support, serve as a central point of contact for stakeholders, conduct outreach and promote commercialization of federal research by the private sector.
- **Supporting basic QIS research and standards development at NIST**, fund DOE basic research programs and establish DOE research centers, fund NSF basic research and establish national quantum research and education centers.
- **Engaging U.S. high-tech companies**, which are investing heavily in quantum research, and a wave of quantum technology start-ups, to contribute their knowledge and resources to a national effort.
- **Addressing fundamental research gaps**, create a stronger workforce pipeline and take the lead in developing quantum standards and measures for global use and thereby give U.S. companies and workers an enduring competitive advantage.

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According to the **National Quantum Coordination Office**, the NQI Act has enabled:

- **23** Federal agencies involved in the National Quantum Initiative
- **\$2.6B** Total U.S. Government investment in the National Quantum Initiative
- **13** Major National Quantum Initiative Research Centers and Institutes
- **~2000** QIS R&D grants since the NQI, which engage over **1000** scientists and engineers from over **250** different institutions in **47** states
- **>170** companies currently participating in the Quantum Economic Development Consortium
- **41** U.S. Government supported Nobel Laureates honored for quantum studies

Per the original NQI Act, a second authorization is necessary to continue this research for the next five years. Continued support is necessary to ensure the benefits of this critical research flow to our economic and national security. Additional federal funds will help engineer and industrialize quantum technology, including quantum computers, communications/networking systems, and sensors. This support will lay the groundwork for the development of conventional technology and intellectual property needed to bring quantum technology to full fruition. To date, the following funding levels have been approved.

