KPMG

Regulatory Alert

Regulatory Insights

July 2026

Executive Orders: Quantum Innovation and Protections

KPMG Regulatory Insights:

America First Resilience Strategy: *A "whole-of-government approach" to build quantum capability and to strengthen cryptographic protections to defend against such capabilities by adverse actors.*

Broad Effort: *Public/Private effort to cover research, manufacturing, commercialization, and application consistent with the national cybersecurity strategy to protect national security, critical infrastructure, and the digital economy.*

Accelerated Compliance Timeline: *Directs relatively near-term deadlines including a post-quantum cryptography pilot in 2027, the fielding of next-generation quantum sensor projects by 2028, and the migration of "high value assets" and "high impact systems" (including those of covered contractors) to post-quantum cryptography standards by 2030 (key establishment) and 2031 (digital signatures).*

Compliance Considerations: *Government contractors and organizations engaged in critical infrastructure activities should watch for forthcoming guidance regarding migration to post-quantum cryptography standards as well as consider opportunities to participate in public/private partnerships/research/training.*

The Administration has issued an Executive Order 14413 entitled "Ushering In the Next Frontier of Quantum Innovation", which directs a "whole-of-government approach" to accelerate deployment and commercialization of quantum computing, sensing, and networking. This approach is intended to implement the Administration's stated policy to "ensure that the United States maintains a strategic technical advantage in Quantum Information Science and Technology (QIST) and leads the development of a robust and trusted quantum ecosystem across QIST research, manufacturing, commercialization, and application."

The Executive Order establishes the "Quantum Computer for Application Development and Discovery Science (QC–ADDS) Effort" and mandates certain executive departments and federal agencies to take action, as follows:

- Update the National Quantum Strategy
- Harness quantum computing for scientific applications
- Deploy quantum-enabled sensors and networks
- Bolster domestic quantum supply chains
- Protect U.S. quantum technology
- Expand the quantum workforce
- Engage with international partners

In a related action, the Administration issued Executive Order 14412, entitled "Securing the Nation Against Advanced Cryptographic Attacks", which outlines a national policy and strategy to transition federal information systems to NIST-approved standards (federal information processing standards - FIPS) for post-quantum cryptography (PQC). The Administration states the advent of large-scale quantum computers will pose a significant threat to widely used cryptographic security systems and calls out the need to strengthen protections for sensitive data and critical infrastructure. The strategy calls on select departments and agencies to provide guidance on PQC migration, conduct a pilot project covering NIST-owned/operated information systems, and issue rulemakings to require covered contractors to comply with the NIST FIPS.

Update the National Quantum Strategy		
Requirements	**Deadline**	**Applicable Departments/ Federal Agencies**
Update the National Quantum Strategy with policies intended to support the maturing QIST ecosystem, including: — Promoting commercialization and deployment of QIST — Supporting the quantum-enabling technology ecosystem — Encouraging partnerships with United States industry.	Within 180 days of the EO	the Assistant to the President for Science and Technology (APST) in coordination/ consultation with: — Department of War (DOW) — Department of Commerce (DOC) — Department of Energy (DOE) — Director of National Intelligence (DNI) — Director of the National Science Foundation (NSF) — Co-Chairs of the National Science and Technology Council Subcommittees on Quantum Information Science (SCQIS) and Economic and Security Implications of Quantum Information Science (ESIX)
Submit a summary of steps taken to align processes, policies, and programs with the updated National Quantum Strategy to the APST and the Director of the Office of Management and Budget (OMB).	Within 30 days of publication of the updated strategy	Relevant departments and agencies

Harness Quantum Computing for Scientific Applications		
Requirements	**Deadline**	**Applicable Departments/ Federal Agencies**
Under the newly established QC-ADDS Effort, develop a quantum computer on a scale and deliver at least one such computer to a DOE facility.	n/a	APST
Ensure that relevant capabilities, manufacturing infrastructure, and expertise are made available to support the QC–ADDS Effort and deployed toward commercial, government, and national security applications.	n/a	DOC, DOW, DOE, DNI, NSF and other relevant agencies
Identify and publicly release a summary of technical specifications required for a QC–ADDS to perform “transformative scientific applications” beyond current classical computer capabilities.	Within 90 days of the EO	DOE in coordination with APST and other relevant agencies
Explore potential private-sector partnership models to understand the potential cost, scope, and time frame for delivery of at least one QC–ADDS and develop plan to encourage contributions for commercial companies.	Within 180 Days of the EO	DOE in consultation with OMB; DOC
Establish a national center to develop tools and capabilities to assess quantum computing system performance, including a mechanism to share information between agencies.	Within 180 Days of the EO	DOE, DOW, and DOC; ESIX
Identify the national security implications of the increasing scale and performance of commercial quantum computers.	Report due one year after the EO and annually thereafter	DNI and DOW in consultation with ESIX, DOC, Secretary of State, DOE

Deploy Quantum-Enabled Sensors and Networks		
Requirements	**Deadline**	**Applicable Departments/ Federal Agencies**
Identify at least three next-generation quantum sensor projects to prioritize and field by September 30, 2028.	Within 60 days of the EO	DOW
Develop 5-year plans for advancing quantum sensing and networking including: — Commercial readiness — Measuring complex systems — Networking — Civilian applications.	Report due within 120 days of the EO	DOC, DOE, NSF, and NASA
Prioritize research, development, testing, and evaluation of applications and hardware for quantum sensing and networking.	n/a	Relevant agencies

Bolster Domestic Quantum Supply Chains		
Requirements	**Deadline**	**Applicable Departments/ Federal Agencies**
Develop a plan to strengthen the QIST ecosystem by analyzing supply chains, encouraging private sector adoption of QIST-related standards, and supporting research and development to eliminate barriers.	Report due within 90 days of the EO	DOC, DOE, and relevant agencies
Develop a plan to partner with the private sector to develop quantum-enabling component technologies in the U.S. as well as statutory or regulatory hurdles.	Within 120 days of the EO	DOW, DOC, DOE, and NSF
Take steps to: — Increase domestic access to DOW-sponsored QIST-relevant foundry resources, and strengthen efforts to improve access to critical QIST supply chains — Issue grants for establishing QIST user facilities through the National Quantum and Nanotechnology Infrastructure program	Within 180 days of the EO	DOW, NSF
Recommend a revised membership list for the reconstituted National Quantum Initiative Advisory Committee (NQIAC) and task the NQIAC to develop recommendations for stimulating the development of quantum-enabling technologies.	Within 210 days of the EO	APST

Protect U.S. Quantum Technology		
Requirements	**Deadline**	**Applicable Departments/ Federal Agencies**
Ensure QIST activities and policies maintain “robust and balanced” security controls to safeguard critical information and national security.	n/a	APST and the Assistant to the President for National Security Affairs (APNSA)
Propose (to the APST, the APNSA, and the Director of OMB) staffing requirements to expand the Quantum Information Science and Technology Counterintelligence Protection Team (QCPT) to improve and coordinate protections against adversarial threats.	Report due within 60 days of the EO	FBI. Secretary of State, DOW, DOC, DOE, DHS, DNI, NSA

Expand the Quantum Workforce		
Requirements	**Deadline**	**Applicable Departments/ Federal Agencies**
Develop a government-wide QIST recruitment and retention strategy.	Within 90 days of the EO	Office of Personnel Management (OPM) in coordination with APST and OMB
Ensure that QIST-relevant industry needs are prioritized in workforce training efforts and develop an approach to tracking labor statistics for assessing the needs of the U.S. quantum ecosystem.	Within 120 days of the EO	DOL, NSF
Promote the expansion of post-secondary training opportunities including a network of National QIST Workforce Development Institutes.	Within 180 days of the EO	APST, NSF

Engage with International Partners		
Requirements	**Deadline**	**Applicable Departments/ Federal Agencies**
Align international engagements in ways designed to: — Secure strategic market access — Maintain an international ecosystem of quantum-enabling technology companies with trusted supply chains — Prevent countries of concern from acquiring critical quantum-enabling technologies.	Report due within 180 days of the EO	Secretary of State and DOC
Identify and provide recommendations for trade barriers, discriminatory treatment, and policies that may limit competition.	n/a	DOC, US Trade Representative
Provide recommendations (to the APNSA and the APST) on how to align existing bilateral and multilateral international engagements to advance the priorities of this order.	Within 120 days of the EO	Secretary of State

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