

NITI Aayog releases a Roadmap on “Transforming India into a leading Quantum- Powered Economy”

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NITI Aayog's Frontier Tech Hub today released a Roadmap on Transforming India into a leading Quantum-Powered Economy. The roadmap was unveiled by Shri Mallu Bhatti Vikramarka, Deputy Chief Minister of Telangana; Shri D. Sridhar Babu, Minister of IT, Telangana; Dr. V.K. Saraswat Member, NITI Aayog; Shri B.V.R. Subrahmanyam, CEO, NITI Aayog; Ms. Debjani Ghosh, Distinguished Fellow, NITI Aayog and other distinguished guests and dignitaries.

Quantum technologies stand at the threshold of becoming one of the most transformative forces of our time. Their impact will cut across sectors, redefining healthcare, finance, logistics, materials, energy and national security. The nations that act decisively today will not only command the next generation of computing, communication, and sensing capabilities, but will also shape the very architecture of global innovation and trust.

For India, the promise of quantum goes far beyond technology. It represents the opportunity to redefine our place in the world — to lead in a frontier domain from the outset, rather than catching up after others have set the rules. Quantum is not just another sector of innovation; it is the foundation upon which the next era of artificial intelligence, biotechnology, advanced materials, and secure digital infrastructure will be built.

The roadmap published by NITI Aayog lays out clear imperatives and actionable pathways for realizing this vision by leveraging the existing National Quantum Mission. It provides a comprehensive analysis of India's current position, strategic strengths, and critical gaps, and identifies key interventions to accelerate R&D, commercialization, and ecosystem development. The roadmap emphasizes collective ownership—across policymakers, scientists, entrepreneurs, investors, and states—to build a globally trusted and competitive quantum economy.

“Quantum computing represents a turning point where technology moves beyond speed and scale and begins to solve problems once believed impossible, from drug discovery and climate modelling to national security and advanced materials. In just a few years, global commitment to quantum has grown more than tenfold, showing that this field is no longer experimental, but inevitable. Telangana enters this moment with intention and preparation. We are building deep research capabilities, nurturing skilled talent, and creating pathways for industry to innovate and deploy. Our goal is not merely adoption, it is participation and leadership in shaping the quantum future,” said Shri D. Sridhar Babu, Minister for Information Technology, Electronics & Communications, Industries & Commerce, Government of Telangana.

“Quantum technologies are rapidly emerging as a strategic driver of economic growth, national security, and scientific discovery. For India to achieve developed nation status by 2047, we must integrate quantum computing, secure communication, precision sensing, and advanced materials into key national missions and industrial sectors. The National Quantum Mission has enabled important early progress, and this

roadmap highlights the milestones required to expand capability, develop specialized talent, and build globally competitive platforms. With the right investments and coordination, India can secure a resilient digital future and establish a differentiated position in the global quantum landscape,” said Dr. V.K. Saraswat, Member, NITI Aayog.

“The coming five years will decide whether India becomes a global supplier of quantum technologies — or a consumer dependent on others. We must combine our unmatched talent base, engineering depth, and digital public infrastructure to build a quantum-powered India: one that is trusted globally, competitive economically, and secure strategically. By working in partnership and acting with urgency, we can reduce technology dependencies and build globally trusted platforms that reflect India’s innovation strengths,” said Shri B.V.R. Subrahmanyam, CEO, NITI Aayog.

“Global competition in quantum is intensifying, and leadership will depend on the ability to develop exportable solutions, shape technical standards, and build secure value chains. This roadmap underscores the need to expand our research infrastructure, streamline innovation-to-market pathways, and cultivate talent at scale. By investing early and building global partnerships, we can establish India as the trusted quantum partner for the Global South and beyond,” said Ms. Debjani Ghosh, Distinguished Fellow, NITI Aayog.

The Roadmap for Transforming India into a leading Quantum-Powered Economy was developed by NITI Aayog’s Frontier Tech Hub, in collaboration with IBM, with guidance from an Expert Council of leaders from industry and academia. The launch saw keen participation from government officials, industry members and development partners, underscoring a collective resolve to advance India’s leadership in Quantum-Powered Economy.

Access the Roadmap here: [\[Roadmap_for_Transforming_India_into_a_Leading_Quantum_Powered_Economy.pdf\]](#)

About NITI Frontier Tech Hub:

The NITI Frontier Tech Hub is an action tank for Viksit Bharat. In collaboration with over 100 experts from government, industry, and academia, it is shaping a 10-year roadmap across 20+ key sectors to harness frontier technologies for transformative growth and societal development. By empowering stakeholders nationwide and driving collective action, the Hub is instilling urgency to act today, laying the foundation for a prosperous, resilient, and technologically advanced India by 2047.

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