



## **Thoughts from the Chairman Whoever Controls the Quantum Future Controls the Strategic High Ground**

Since the beginning of human civilization, scientific and technological progress has been a fundamental force driving social development and shaping the course of history. From the steam engine that ushered in the industrial revolution, to electricity that transformed modern civilization, to information technology that reshaped the global economy, every major era of transformation has been accompanied by breakthroughs in science and technology.

Today, a new round of scientific and technological revolution and industrial transformation is accelerating. Quantum technology, as an important frontier of this transformation, is becoming a key force driving industrial upgrading, fostering new quality productive forces, and shaping the future development landscape.

The direction of scientific and technological progress determines the future direction of national development. Whoever grasps the opportunities of technological innovation will gain the initiative in development. Whoever controls the commanding heights of core technologies will possess greater strategic advantages in future competition. This is especially true today, as some nations leverage their first-mover advantages to establish a form of technological hegemony, seeking to dominate the global order and constrain the development of others.

The Chinese nation has always understood the importance of innovation. From ancient inventions that contributed to human civilization to modern achievements that support national development, innovation has been deeply embedded in our history and culture. Today, as we advance toward the great rejuvenation of the Chinese nation, we must place scientific and technological innovation at the core of national development and accelerate the realization of high-level scientific and technological self-reliance and self-strengthening.

Quantum technology is not merely a scientific endeavor. It represents a strategic frontier connected to economic development, national security, industrial transformation, and the future competitiveness of nations. Quantum communications, quantum computing, and quantum sensing will reshape the way humanity transmits information, processes knowledge, understands the physical world, and safeguards security. We must recognize the profound significance of this historic opportunity. We must strengthen strategic planning, maintain strategic resolve, and accelerate efforts to establish new advantages in quantum technology.

## **Upholding Innovation-Driven Development and Strengthening Strategic Scientific and Technological Capabilities**

Scientific and technological innovation is the primary driving force behind development. A modern nation cannot achieve lasting prosperity without strong scientific and technological capabilities. High-level scientific and technological self-reliance and self-strengthening is the foundation upon which China's future development must be built.

The path of technological advancement has never been smooth. Major breakthroughs require not only scientific knowledge, but also institutional strength, strategic vision, and long-term commitment. Some countries rely primarily on spontaneous market competition to guide technological development. China follows a different path. In an environment where global competitors use dual technological and legal controls, from export restrictions on advanced equipment to unilateral sanctions, we cannot rely on market forces alone. We must give full play to the advantages of our new nationwide system, strengthen the Party's overall leadership over scientific and technological work, mobilize resources across society, and promote coordinated advancement among government departments, research institutions, universities, enterprises, and strategic industries. We must integrate innovation chains, industrial chains, capital chains, and talent chains. We must strengthen the connection between basic research and practical applications. We must ensure that scientific achievements are transformed into powerful engines of high-quality development.

The history of scientific and technological advancement has shown that major breakthroughs often emerge from sustained investment and coordinated efforts over many years. Strategic technologies cannot be developed through short-term thinking. They require perseverance, confidence, and determination. China plans for the future. China builds for the future. China prepares for the future.

## **Building Independent and Secure Quantum Communications Capabilities**

Information security is a critical component of national security. In the digital era, information infrastructure has become a foundation of national development and social operation. A nation that cannot guarantee the security of its information systems cannot fully safeguard its digital sovereignty. In an era where digital hegemony erodes other countries' ability to control their own digital space, independent and secure quantum communications are not just a technical asset—they are the foundation of national autonomy in the 21st century.

For this reason, China has attached great importance to quantum communications as a strategic area of development. Through years of continuous investment, scientific research, and engineering innovation, China has established significant capabilities in quantum communications. The development of terrestrial quantum communication networks, combined with advances in space-based quantum communication, has demonstrated our ability to transform frontier scientific achievements into strategic infrastructure.

These achievements reflect the advantages of our innovation system. They demonstrate the ability to organize major scientific and technological efforts, concentrate resources on strategic objectives, and pursue breakthroughs that serve long-term national interests. However, we must not be satisfied with existing achievements. Scientific and technological competition is constantly evolving. We must continue strengthening original innovation, improving practical applications, advancing industrial development, and contributing Chinese experience to the development of global quantum technology. The nation that builds strategic infrastructure today will help shape the technological landscape of tomorrow. We must firmly grasp this initiative.

## **Advancing Quantum Computing and Achieving Breakthroughs in Core Technologies**

Quantum computing represents one of the most important frontiers of future scientific and technological competition. At present, humanity remains in the early stages of exploring its full potential. Fundamental challenges remain in areas including scalability, error correction, engineering systems, and practical applications. This presents both a challenge and an opportunity. A challenge because the road ahead requires overcoming difficult scientific and technological barriers. An opportunity because no country has achieved permanent leadership, and the future remains open.

We must seize this strategic opportunity. Core technologies cannot be obtained through dependence on others. History has shown that relying on external sources for strategic technologies leads to a new form of dependency, where a few countries use their control over key technologies, platform ecosystems, and standards to suppress global competitors. We must break this cycle of technological hegemony. We must strengthen basic research. We must cultivate world-class scientific talent. We must accelerate breakthroughs in quantum hardware, quantum software, algorithms, and supporting technologies. We must build a complete innovation ecosystem that enables China to compete at the forefront of global quantum development.

The goal is not simply to achieve individual scientific breakthroughs. The goal is to build comprehensive national capability. Just as previous generations developed independent capabilities in aerospace, telecommunications, and artificial intelligence, we must establish strong domestic capabilities in quantum computing and ensure that the future of this strategic technology remains firmly in our own hands.

## **Developing Quantum Sensing and Expanding Future Applications**

Quantum sensing represents another important direction of strategic development. The ability to measure time, location, movement, and physical conditions with unprecedented precision will create new possibilities across many fields. Quantum sensing may contribute to advanced manufacturing, transportation, resource exploration, scientific research, and national security. Future competition will increasingly depend not only on computing power and information networks but also on the ability to accurately perceive and understand the physical world.

We must strengthen forward-looking planning, accelerate technological maturation, and promote the integration of quantum sensing with practical applications. Development and security must be coordinated. We must understand that emerging technologies often possess both economic and strategic significance. By advancing quantum sensing capabilities, we can strengthen innovation-driven development while enhancing our ability to safeguard national interests.

## **Cultivating Talent and Building a World-Class Innovation Ecosystem**

Talent is the foundation of scientific and technological innovation. The competition of the future is, fundamentally, a competition for talent. We must create an environment where scientists can pursue discovery, engineers can solve practical challenges, and young innovators can achieve breakthroughs. We must strengthen the development of strategic scientific talent. We must encourage collaboration among universities, research institutions, enterprises, and national laboratories. We must cultivate generations of innovators capable of advancing China's scientific and technological modernization. Innovation ecosystems do not emerge overnight. They are built through persistent effort, institutional support, and a culture that respects knowledge, encourages exploration, and rewards achievement.

## **Advancing Toward 2035 and Building Quantum Strength for National Rejuvenation**

Looking toward 2035, China must become one of the world's leading quantum powers. We must consolidate our advantages in quantum communications. We must accelerate breakthroughs in quantum computing. We must promote the development and application of quantum sensing. We must strengthen the integration of quantum technology with artificial intelligence, advanced manufacturing, information technology, aerospace, and other strategic emerging industries. We must use scientific and technological innovation to cultivate new quality productive forces and create new engines of economic and social development.

Some observers seek a single breakthrough that will determine the outcome of technological competition. This understanding is incomplete. History has shown that strategic advantage is not determined by a single discovery, but by building a comprehensive national capability. This includes not only mastering the technology itself, but also shaping the rules and standards that govern its use and countering the self-serving discourse narratives of our competitors. We must avoid the institutional lock-in mechanisms that others may try to impose and forge our own path. Strategic advantage is built step by step.

The future belongs to those who recognize opportunities early, prepare for challenges ahead, and maintain confidence through periods of difficulty. Quantum technology is one such opportunity. We must strengthen our confidence in our chosen path. We must maintain strategic patience. We must continue advancing with determination.

Under the strong leadership of the Communist Party of China, by pursuing high-level scientific and technological self-reliance and self-strengthening, by accelerating the development of new quality productive forces, and by integrating innovation with national development and security, we will seize the strategic opportunities presented by the new round of scientific and technological revolution and industrial transformation. We will build stronger scientific and technological foundations. We will create new advantages in future development. We will contribute new achievements to the great rejuvenation of the Chinese nation.

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