

Translation



The following is the text of Chinese President Xi Jinping's speech at a major Chinese S&T conference in June 2024. In his remarks, Xi recaps many of China's scientific triumphs of 2023 but also warns that the nation still has weaknesses in areas such as original innovation and talent. Xi emphasizes China's need to improve its self-sufficiency given its increasingly "complex" relationship with other powers, yet maintains that China will continue to play a leading role in international S&T cooperation.

Title

Xi Jinping: Speech at the Nationwide S&T Conference, National Science and Technology Awards Conference, and the Conference of Academicians of CAS and CAE (June 24, 2024)
习近平：在全国科技大会、国家科学技术奖励大会、两院院士大会上的讲话（2024年6月24日）

Author

Xi Jinping (习近平)

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<http://www.news.cn/politics/leaders/20240624/16741a201e564d8d8775ffb1450ecf29/c.html>

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Translator

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Ben Murphy, CSET Translation Manager

Speech at the Nationwide S&T Conference, the National Science and Technology Awards Conference, and the Conference of Academicians of CAS and CAE

(June 24, 2024)

Xi Jinping

Academicians, comrades, friends:

This conference is a scientific and technological (S&T) event held at a critical period when China is, through Chinese-style modernization (中国式现代化),

comprehensively promoting the construction of China into a world power¹ and undertaking of the rejuvenation of the nation (民族复兴). First, on behalf of the Party Central Committee, I would like to extend my warm congratulations to the collectives and individuals who won the National Science and Technology Awards in 2023! I would like to extend my sincere greetings to the academicians of the Chinese Academy of Sciences (CAS) and the Chinese Academy of Engineering (CAE) and the vast number of S&T workers nationwide! I would like to extend a warm welcome to the foreign academicians and friends from the international scientific community who are attending the conference!

When our S&T flourishes, our race (民族) flourishes, and when S&T is strong, our nation is strong. Our party has always attached great importance to the development of science and technology. Since the 18th Party Congress [in 2012], the Party Central Committee has promoted the implementation of the innovation-driven development strategy in an in-depth way, proposed the strategic task of accelerating the construction of an innovation-oriented country (创新型国家), established the goal of building China into an S&T powerhouse by 2035, continuously deepened S&T structural reform (科技体制改革), fully stimulated the enthusiasm, initiative, and creativity of S&T personnel, and vigorously promoted the building of self-reliance (自立自强) in S&T. Our country's S&T undertakings have made historic achievements and undergone historic changes. New breakthroughs have been achieved in basic and cutting-edge research, and a number of major original achievements have been made in fields such as quantum technology, life science, physical science, and space science. Two core conjectures of differential geometry have been successfully proven, chemical small molecules have induced reprogramming of human cells, and artificially synthesized starch using carbon dioxide has achieved "technological creation." The strategic high-tech field has seen new leaps and bounds. "Chang'e" has landed on the moon, "Tianhe" has taken up its station in space, "Tianwen" has explored Mars, "Crust 1" ("地壳一号") has advanced into the depths of the Earth, "Striver" ("奋斗者"; "奋斗者") has explored the mysteries of the deep sea at depths greater than 10,000 meters, and the world's first fourth-generation nuclear power plant has been put into commercial operation. Being innovation-driven has led to new achievements in high-quality development. Emerging industries such as integrated circuits and artificial

¹ Translator's note: This translation renders the Chinese word 强国 qiángguó—which literally means "strong nation"—in English in two different ways, depending on context. Where the translator judges that qiángguó is used in the general geopolitical sense, it is translated as "world power." Where the translator judges that the text refers to a specific flavor of qiángguó, it is translated as "powerhouse," as in the phrase "S&T powerhouse" (科技强国). For a more thorough discussion in English of the Chinese word qiángguó, see:

<https://www.newamerica.org/cybersecurity-initiative/digichina/blog/lexicon-wanluo-qiangguo/>.

intelligence (AI) have flourished. The first 6G satellite was successfully launched. BeiDou navigation provides precision services on a global scale. Chinese-made large aircraft have been put into commercial operation. High-speed rail technology has set an international benchmark. New energy vehicles have added new impetus to the global automotive industry. Bioengineered breeding (生物育种), the formulation of new medicines, and green and low-carbon technologies have contributed to food security and the building of a healthy China and a beautiful China. S&T structural reform has opened up a new landscape, the S&T management structure has been reshaped, efforts have been accelerated for the deployment of national strategic S&T forces, and the vitality of innovation entities and talents has been further unleashed. New progress has been made in international opening-up and cooperation. China has taken the initiative to launch international S&T cooperation initiatives and taken the lead in organizing major international scientific plans. China's influence as an important hub of global innovation continues to grow. All these things have laid a solid foundation for building China into an S&T powerhouse.

In the practice of S&T development in the new era, we have continuously deepened our understanding of the laws [of development] and accumulated many important experiences. The takeaways are: We must adhere to the overall leadership of the Party, strengthen the centralized and unified leadership of the Party Central Committee over S&T work, keep our eyes on the big picture, consider the overall situation, and grasp the fundamentals, and ensure that the development of S&T always moves in the correct direction. We must persist in walking the path of independent innovation (自主创新) with Chinese characteristics, rely on our own efforts to remake ourselves and on arduous struggle, give full play to the advantages of China's socialist system in concentrating resources to accomplish major projects, promote high-level S&T self-reliance, and firmly grasp the lifeline of S&T and the initiative for development in our own hands. We must persist in innovation-led development, firmly establish the concept that a firm hold on innovation is a firm hold on development and that seeking innovation is seeking the future, and use S&T innovation to lead high-quality development and guarantee high-level security. We must adhere to the strategic orientation of the "four be oriented towards" ("四个面向"), that is, being oriented toward the cutting edge of world S&T, being oriented toward the main battleground, namely the economy, being oriented toward the major needs of the nation, and being oriented toward the lives and health of the people. We must strengthen the whole-chain arrangement and all-sector layout of S&T innovation, and comprehensively enhance S&T strength and innovation capabilities. We must continue to stimulate innovative vitality through deepening reform, resolutely break down ideological concepts and institutional obstacles that hinder S&T innovation, and effectively transform the advantages of our system into competitive advantages in S&T.

We must adhere to the promotion of a virtuous cycle in the education of S&T talent, coordinate the implementation of the strategy of rejuvenating the nation through science and education, the talent powerhouse strategy, and the innovation-driven development strategy and the integrated promotion of education development, S&T innovation, and talent training. We must persist in fostering an innovative culture, inheriting the innovative genes of China's excellent traditional culture, creating a favorable environment that encourages exploration and tolerates failure, and making respect for science and pursuit of innovation a general trend throughout the whole society. We must persist in open cooperation in S&T for the benefit of humanity, pursue an open strategy of mutual benefit and shared success, and contribute Chinese wisdom and strength to addressing global challenges and promoting human development and progress. These experiences are extremely valuable, require our adherence over the long term, and must be continuously enriched and developed in practice.

Academicians, comrades, friends!

We are currently in a new round of S&T revolution and industrial transformation. Scientific research is expanding towards the extremely macroscopic level, deepening towards the extremely microscopic level, moving towards extreme conditions, and progressing towards extremely synthesized and cross-disciplinary efforts, constantly breaking through the boundaries of human cognition. Technological innovation has entered a period of unprecedentedly intensive activity, with cutting-edge technologies such as AI, quantum technology, and biotechnology emerging all at once, triggering a chain reaction of transformation. At the same time, great changes in the world unseen in a century are progressing at an accelerated pace, the S&T revolution and the game being played between the great powers are intertwined, and the high-tech field has become the front line and main battlefield of international competition, profoundly reshaping the global order and the pattern of development. Although China's S&T undertakings have made great progress, our original innovation capabilities are still relatively weak, some key and core technologies (关键技术) are controlled by others (受制于人), and there is a shortage of elite S&T talents. We must further enhance our sense of urgency, give further impetus to S&T innovation, and seize the commanding heights of S&T competition and future development.

The 20th Party Congress [in 2022] clearly defined the central task of, through Chinese-style modernization, comprehensively promoting the construction of China into a world power and undertaking the rejuvenation of the nation. China's modernization must be supported by S&T modernization, and achieving high-quality development requires cultivating new dynamism (新动能) through S&T innovation. We must fully recognize the strategic leading position and fundamental supporting role of

S&T, anchor the strategic objective of building China into an S&T powerhouse by 2035, strengthen top-level design and overall planning, and accelerate the realization of high-level S&T self-reliance.

The S&T powerhouse we want to build should have S&T strength and innovation capabilities that are among the best in the world, support the overall leap in economic strength, national defense strength, and comprehensive national power, enhance human well-being, and promote global development. It must possess the following basic elements: First, it must have strong basic research and original innovation capabilities and continuously produce major original and disruptive S&T achievements. Second, it must possess strong capabilities for breakthroughs in key and core technologies, which can provide strong support for high-quality development and high-level security. Third, it must possess strong international influence and leadership, becoming an important global scientific center and bastion of innovation. Fourth, it must possess a strong ability to train and gather high-level S&T talent and continue to expand our world-leading S&T talent cadre and our national strategic S&T forces. Fifth, it must possess a strong S&T governance system and governance capabilities, and form a world-class innovation ecosystem and scientific research environment.

Academicians, comrades, friends!

We are now only 11 years away from achieving the goal of building China into an S&T powerhouse. We must have the firm determination and tenacious will that “sharpens the sword for ten years,” seizes the day, and works hard, in order to turn this strategic objective into reality step by step.

First, we must give full play to the advantages of the new structure for leveraging national capabilities (新型举国体制) and accelerate the promotion of high-level S&T self-reliance. We must improve the system of the centralized and unified leadership of the Party Central Committee over S&T work, strengthen the coordination of strategic planning, policies and measures, major tasks, scientific research forces, resource platforms, and regional innovation, build a coordinated and efficient decision-making and command system and organizational implementation system, and aggregate a strong synergy to promote S&T innovation. We must give full play to the decisive role of the market in the allocation of S&T resources, have the government better play its role in all areas, mobilize the enthusiasm of all the players in industry, academia, and research institutes (产学研), and form a work layout that jointly promotes breakthroughs in key and core technologies. We must strengthen the construction of national strategic S&T forces, optimize their positioning and layout, improve the national laboratory system, and enhance the integration capabilities of the national innovation system. We must maintain strategic determination, persist in doing what we

need to do and refrain from doing what we must not do, highlight national strategic needs, implement scientific and technological strategic deployments in several important areas, aggregate and implement a batch of new major S&T projects, form competitive advantages, and win the strategic initiative. We must improve the level of organization of basic research, improve investment mechanisms that combine competitive support with stable support, strengthen collaborative research on major scientific questions while simultaneously encouraging free exploration, strive to propose original basic theories and master underlying technical principles, and lay a solid foundation and base for S&T innovation.

Second, we must solidly promote the deep integration of S&T innovation and industrial innovation to help develop new productive forces (新质生产力). The basis of integration is to increase the supply of high-quality S&T. We must focus on key areas and weak links in the construction of a modern industrial system, increase our efforts in technological R&D to address bottlenecks such as integrated circuits, industrial machine tools, basic software, advanced materials, scientific research instruments, and core germplasm resources, and provide S&T support to ensure the independence, security, and controllability of important production chains and supply chains. We must aim at the commanding heights of the S&T of the future and of industrial development, accelerate S&T innovation in new-generation information technology, AI, quantum technology, biotechnology, new energy, new materials, and other fields, and cultivate and develop emerging industries and future industries. We must actively use new technologies to transform and upgrade traditional industries and promote the high-end, intelligitized (智能化), and green development of industries.

The key to integration is to strengthen the leading role of enterprises in S&T innovation. We must give full play to the leading role of leading S&T enterprises, encourage technological innovation among small and medium-sized enterprises and private (民营) enterprises, and support enterprises in taking the lead or participating in major national S&T projects. We must guide enterprises to work closely with universities and research institutions, working together to condense and refine S&T problems in response to industry needs, jointly carry out scientific research, and collaboratively cultivate S&T talents in order to promote industry-academia-research institute co-mingled innovation led by enterprises.

The path to integration is to promote the conversion and application of S&T achievements. We must rely on China's advantages in industrial foundation and our super-large-scale market, strengthen the construction of the national technology transfer system, improve policy support and market services, and promote the popularization, application, and iterative upgrading of products produced through independent breakthroughs so that more S&T achievements can be converted from

samples into products and then to form into industries. We must do a good job in the area of S&T finance and guide financial capital to invest early, invest in small businesses, invest for the long term, and invest in hard S&T.

Third, we must comprehensively deepen the reform of the S&T structure and mechanism to fully stimulate the vitality of innovation and creation. We must persist in combining being goal-oriented and being problem-oriented. In response to the problems of the low level of organization and coordination in China's S&T innovation as well as scattered and redundant S&T resources, we must deepen the reform of the S&T management structure, coordinate the construction of various types of innovation platforms, and strengthen the coordination of innovation resources and the organization of our forces. We must improve the regional S&T innovation layout, strengthen coordination and collaboration between the central government and local governments, and build a bastion of innovation with global influence. We must improve the management of S&T plans, deepen the reform of the allocation, management, and usage mechanisms of S&T funds, give scientific research institutions and researchers greater autonomy, and improve the efficiency of S&T innovation investments.

In recent years, we have made positive progress in reducing the burden on scientific researchers, but many researchers have also reported that their various non-academic burdens are still heavy. We must adhere to the combination of "breaking out of the four onlys"² and "establishing new standards" ("立新标") and accelerate the establishment of a categorized evaluation system and assessment mechanism that conforms to the laws of scientific research activities. We must improve incentive systems such as S&T awards, income distribution, and bestowal of ownership rights over research achievements (成果赋权), so that more outstanding talents can obtain reasonable rewards and unleash innovative vitality. We must continue to rectify the trend of indiscriminate issuance of "honors" ("帽子") and "titles" ("牌子") to allow scientific researchers to focus on their research without other worries and effectively reduce their distraction and pain about applying for projects, publishing papers, being evaluated for awards, and competing for resources.

Fourth, we must promote the development of the education of S&T talents in an integrated manner to build a competitive advantage in talent. S&T innovation relies on talent, and talent cultivation relies on education. Education, S&T, and talent are inherently interconnected and support each other. We must strengthen systematic

² Translator's note: The "four onlys" ("四唯") refer to only considering publications authored, job titles held, academic degrees earned, and awards previously won when hiring, promoting, or giving awards to scientific researchers. Chinese leaders and media always use the "four onlys" in the pejorative sense.

concepts (系统观念), deepen the integrated reform of education, S&T, and talent institutions and mechanisms, improve the mechanisms for collaborative education in science and education, and accelerate the cultivation and creation of a cadre of innovative talents with a large scale, logical structure, and high quality.

At present, the structural contradiction between the supply and demand for talent training and S&T innovation in China is quite prominent. We must persist in taking the needs of S&T innovation as our guide, optimize the academic discipline configuration of institutions of higher education, develop innovative talent training models, and effectively raise the level and quality of independent talent training. We must make accelerating the building of national strategic talent forces a top priority, focus on cultivating and training strategic scientists and first-class S&T leaders and innovation teams, and focus on cultivating and training outstanding engineers, craftsmen of a great power (大国工匠), and highly skilled talents. We must focus on strengthening the training of young S&T talents and give them full trust, free rein, careful guidance, and loving care, so as to enable more young top-notch talents to achieve prominence.

We must implement more proactive, more open, and more effective talent policies, accelerate the formation of a talent system with international competitiveness, and build China into a bastion of innovation that gathers together intellectual resources from around the world.

The growth and development of talents are inseparable from the nourishment provided by an innovative cultural soil. We must continue to create a social atmosphere that respects labor, knowledge, talent, and creativity, vigorously promote the spirit of scientists, and encourage the broad masses of scientific researchers to hold lofty aspirations, be patriotic and seek to contribute, and pledge themselves to innovation. We must strengthen the construction of integrity in scientific research and construction of a proper work style and academic style, and promote the formation of a clean and upright scientific research ecosystem.

Fifth, we must deeply implement the concept of building a community of common destiny for humanity (人类命运共同体) and promote open cooperation in S&T. S&T progress is a global and contemporary issue, and openness and cooperation are the only right way forward. The more complex the international environment becomes, the more we must open our minds and open our doors, coordinate openness with security, and achieve self-reliance through opening up and cooperation.

We must take part in international S&T cooperation initiatives in an in-depth way, broaden channels for governmental and non-governmental exchanges and cooperation, give full play to the role of platforms such as the joint construction of the

Belt and Road Initiative,³ take the lead in organizing major international scientific plans and projects, and support scientific researchers from various countries in their efforts to jointly tackle key problems. We must actively integrate into the global innovation network, participate in global S&T governance in an in-depth way, work with countries around the world to create an open, fair, just, and non-discriminatory international S&T development environment, jointly respond to global challenges such as climate change, food security, and energy security, and allow S&T to be used for the greater good of humanity.

Academicians, comrades, friends!

To build China into an S&T powerhouse, the S&T front line has a heavy responsibility and a glorious mission! It is my wish that the academicians of CAS and CAE, as outstanding representatives of the S&T community, will charge ahead and bravely shoulder heavy responsibilities, be pioneers at the forefront of S&T, the spearhead of major tasks, leaders in the growth of young talents, and demonstrators of the spirit of scientists, and make new contributions to the development of our country's science and technology! I hope that the broad masses of S&T workers will consciously integrate their academic pursuits into the great cause of building China into an S&T powerhouse, forge ahead with determination, pursue excellence, and create new achievements that are worthy of the times and worthy of the people!

Building China into an S&T powerhouse is the shared responsibility of the whole Party and the whole country. Party committees and governments at all levels must conscientiously implement the decisions and arrangements of the Party Central Committee, effectively strengthen organizational leadership and scientific management of S&T work, and make all efforts to provide service assurance. Leading cadres at all levels must value the learning of new S&T knowledge and enhance their ability to lead and promote S&T work.

Academicians, comrades, friends!

Building our country into an S&T powerhouse has been the dream pursued by the Chinese nation from modern times. Generation after generation of Chinese people have devoted their efforts and worked tirelessly to achieve this goal. Now, the baton of history has passed into the hands of our generation. We must set ambitious goals, drum up enthusiasm, strive for success, unite our efforts, and forge ahead toward the grand goal of building China into an S&T powerhouse!

³ Translator's note: The "Belt and Road Initiative" (“一带一路”), abbreviated BRI, refers to the Silk Road Economic Belt (丝绸之路经济带) and the 21st Century Maritime Silk Road (21世纪海上丝绸之路).