科技日報

CELEBRATING THE 40TH FOUNDING ANNIVERSARY OF SCIENCE AND TECHNOLOGY DAILY

Science and Technology Daily

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Ringing in 2026, Xi Envisions New Chapter of China's Miracle

Summing up tangible progress in 2025, Chinese President Xi Jinping urged solid steps to write a new chapter in the story of China's miracle in his 2026 New Year message on Wednesday evening.

Noting that the year 2026 marks the beginning of the 15th Five-Year Plan, Xi said on New Year's Eve that a successful venture should start with a good plan, and with clear goals set, calling for efforts to promote high-quality development, further deepen reform and opening up across the board, and deliver prosperity for all.

"We should focus on our goals and tasks, boost confidence, and build momentum to press ahead," Xi said.

Solid advances in 2025

As the year 2025 marked the completion of China's 14th Five-Year Plan for economic and social development, Xi hailed that the country has met the targets in the plan and made solid advances on the new journey of Chinese modernization.

"Our economic strength, scientific and technological abilities, defense capabilities, and composite national strength all reached new heights," Xi said. Describing this year as one that is full of indelible memories, Xi said that the country commemorated the 80th anniversary of the victory of the Chinese People's War of Resistance Against Japanese Aggression and the World Anti-Fascist War, and established the Taiwan Recovery Day, rallying a mighty force for national rejuvenation.

Xi highlighted that China sought to energize high-quality development through innovation, turning itself into one of the economies with the fastest growing innovation capabilities.

The Chinese people endeavored to nurture their spiritual home with cultural development, as there was a surging public interest in cultural relics, museums, and intangible cultural heritage, and the Chinese culture is shining in even greater splendor, Xi added.

The president said that the Chinese people joined hands to build a better life and enjoyed it together.

"No issue of the people is too small; we care for every leaf and tend every branch in the garden of people's well-being," he said. "When the happy hum of daily life fills every home, the big family of our nation will go from strength to strength."

Embracing the world

In the New Year message, Xi said that over the past year China continued to embrace the world with open arms.

To better address climate change, China announced new Nationally Determined Contributions, Xi said, adding that after announcing the three global initiatives on development, security, and civilization, he put forward the Global Governance Initiative to promote a more just and equitable global governance system.

"China always stands on the right side of history, and is ready to work with all countries to advance world peace and development," Xi said.

China's reunification unstoppable

"We Chinese on both sides of the Taiwan Strait share a bond of blood and kinship. The reunification of our motherland, a trend of the times, is unstoppable," Xi said.

On Hong Kong and Macao, Xi said the policy of "one country, two systems" should be unswervingly implemented and the two special administrative regions be supported to better integrate into the overall development of the country and maintain long-term prosperity and stability.

Party self-governance

"Only a strong Communist Party of China can make our country strong," Xi said in the message. The Party exercised strict self-governance through credible measures, and promoted self-revolution to fight corruption and advance healthy governance.

"As a result, the conduct of our Party and government steadily improved. We must stay true to our original aspiration and founding mission, and pursue our goal with perseverance and dedication," Xi said.

Source: Xinhua

WECHAT ACCOUNT

E-PAPER

Xi Congratulates Science and Technology Daily on Its 40th Anniversary

贺 信

值此科技日报创刊40周年之际，向报社全体同志表示祝贺！

40年来，科技日报围绕党和国家中心工作，在宣传党的创新理论、解读科技政策、报道科技成就、普及科学知识等方面发挥了积极作用。新起点上，希望你们深入学习贯彻新时代中国特色社会主义思想，坚持正确政治方向，创新载体方式，弘扬科学家精神，努力讲好中国科技创新故事，反映科技工作者心声，为实现高水平科技自立自强、建设科技强国凝聚更多智慧和力量。

习近平

2026年1月1日

Chinese President Xi Jinping has sent a congratulatory letter to the *Science and Technology Daily* on the occasion of the 40th anniversary of its founding.

Xi, who is also general secretary of the Communist Party of China Central Committee and chairman of the Central Military Commission, extended congratulations to the newspaper's staff.

In the letter, he pointed out that over the past 40 years, the *Science and Technology Daily* has, focusing on the central tasks of the Party and the country, played an active role in promoting the Party's innovative theories, interpreting sci-tech policies, reporting on sci-tech achievements, and popularizing scientific knowledge.

Xi emphasized that, from a new starting point, efforts should be made to tell well China's sci-tech innovation stories, reflect the voices of sci-tech workers, and gather more wisdom and strength to achieve high-level scientific and technological self-reliance and strength, and to build a strong country in science and technology.

Founded on January 1, 1986, the *Science and Technology Daily* has evolved into a comprehensive media organization with platforms such as newspaper, journal, website and mobile application.

Source: Xinhua

Celebration Held to Mark S&T Daily Milestone

By Staff Reporters

A celebration meeting to mark the 40th anniversary of the founding of the *Science and Technology Daily (S&T Daily)* was held in Beijing on January 1, where a congratulatory letter from President Xi Jinping was read out by Science and Technology Minister Yin Hejun.

Yin said the letter affirmed *S&T Daily*'s role in serving the nation and provided fundamental guidance for improving the publication, strengthening sci-tech communication, and advancing China's science and technology endeavors.

He also said over the past 40 years, *S&T Daily* has fulfilled its responsibilities and mission in sci-tech communication, playing an active role in demonstrating China's sci-tech progress and socio-economic development.

Looking forward, he urged *S&T Daily* to tell well China's sci-tech innovation stories to enhance society-wide confidence in innovation, and promote the spirit of scientists and foster a culture of innovation.

It should reflect the voices of sci-tech workers to rally more closely around the cause of science and technology and innovate in content delivery to enhance its reach, effectiveness, and influence.

Wu Jing, president of *S&T Daily*, said the publication will implement the spirit of the letter and steadfastly uphold the truth, remain committed to facts, and embrace innovation — thereby better fulfilling its role as the primary platform for science and technology communication.

It will strive to open a new chapter in sci-tech journalism, and make greater contributions to building a leading country in science and technology.

Zhang Boli, an academician of the Chinese Academy of Engineering, said as China accelerates its efforts toward greater self-reliance and strength in science and technology and becoming a sci-tech powerhouse, there is a greater need than ever to promote the spirit of scientists and to have a professional, responsible sci-tech media.

He expressed confidence that *S&T Daily* would continue to uphold scientific integrity and better serve the nation's major policies and strategic needs, making new achievements from this new starting point.

Other leaders from the Ministry of Science and Technology, representatives from state government departments and agencies, news organizations, and local departments also attended the event.

① The 1st English edition of S&T Daily. ② Belt and Road Initiative 10th anniversary special edition. ③ The poster for the Into Tech Park program.

Telling China's Sci-tech Innovation Stories with Passion and Dedication

Since its founding on January 1, 1986, *Science and Technology Daily (S&T Daily)* has remained deeply engaged in recording China's scientific and technological progress and groundbreaking innovations from research frontlines around the world, acquiring widespread influence in China and the international sci-tech community.

Science sees no borders, thriving on openness. As China deepens its integration into the global innovation network, *S&T Daily* works to better connect China with the rest of the world and facilitate global communication.

On July 1, 2021, we launched the English edition of *S&T Daily* to foster mutual understanding, share knowledge and connect minds across borders.

The English edition of *S&T Daily* focuses on cutting-edge scientific fields, centering on four core themes: Innovative China, Open China, Cultural China and Beautiful China.

Collaborating to address global challenges is an essential component of China's vision for building a community with a shared future for humanity. *S&T Daily* showcases successful international research partnerships and highlights how technology is empowering people's daily lives in China.

It also conveys the voices advocating mutual understanding between China and the rest of the world, and interprets China's open and inclusive innovation policies, telling its sci-tech stories with heart, passion and dedication.

The 223 issues published in four years have built *S&T Daily*'s reputation for thoughtful and quality journalism. Its columns, such as "STI Frontier (stories of China's innovation achievements)," "International Cooperation," and "Dialogue (spotlighting foreign experts in China)," have been widely appreciated.

In addition, our bilingual multimedia series like "Youth on Tech" and "Into Tech Park," which follow young people from around the world as they explore China's innovation hubs, have drawn participants from all over the world into the heart of China's sci-tech ecosystem.

We've also launched several programs, such as "Tech for a Better Life" and "Tech with Heart AI for Good," bringing China's perspectives on sci-tech innovation, sustainable development, human well-being, and responsible AI governance to a global readership.

In order to expand its global network of collaborators, *S&T Daily* initiated the International Union for Science and Technology Communication. This union now brings together 19 leading media organizations and think tanks from across the world, creating a shared space where diverse perspectives meet, trust grows and joint solutions emerge.

President Xi Jinping's letter charts the course to tell China's sci-tech innovation stories well, inspiring us at *S&T Daily* engaged in global sci-tech communication. We will thoroughly study and implement the spirit of the letter and strive to tell more compelling stories of China's sci-tech progress, foster international sci-tech collaboration and promote mutual benefit and shared progress across borders.

The Editorial Office
January 1, 2026

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Agricultural Technology Creates Bumper Harvests

By Staff Reporters

In 2025, China's agricultural sector brimmed with innovative vitality. Breeding innovations continuously broke high-yield records, and smart agriculture accelerated the reconstruction of production models, promoting a deep transformation of agricultural production from "experience-driven" to "technology-driven."

Precise seed breeding

China's breeding technology underwent a revolution in precise design. A number of new varieties with high yield, quality, resistance and efficiency were bred and promoted, safeguarding domestic food security.

The Institute of Genetics and Developmental Biology of the Chinese Academy of Sciences developed GEAIR (Genome Editing combined with AI-based Robotics), the world's first intelligent breeding robot capable of automatic cruise and cross-pollination.

GEAIR, which can identify stamens with 85 percent accuracy, takes only 15 seconds to complete pollination, said Xu Cao, a researcher at the Institute, adding that this technology saves more than 25 percent of the cost in tomato breeding and has shortened the breeding period from five years to one year.

In 2025, Northwest A&F University in Shaanxi, northwest China, saw 12 new wheat varieties it had developed with breakthroughs in lodging resistance receive national approval. The wheat varieties developed by the university have been grown in around 120 million hectares.

A smart agriculture visualization platform in use in a farm in Yongji county, Jilin province. (PHOTO: XINHUA)

"Wei Liangyou 2268," the new insect-resistant and high-yield rice variety, was developed using molecular design breeding technology. It has achieved a yield of 1,174 kilograms per mu in its demonstration plot in Hunan province in central China.

AI management

In 2025, AI has been deeply integrated in agricultural scenarios, and agricultural large models have achieved multiple breakthroughs and large-scale applications, making the transformation of agricultural production precise, unmanned and green.

In a vegetable greenhouse in Changping District, Beijing, a robot using the "Shennong Large Model" is used to check the fruits and vegetables. If it detects a bacterial leaf spot, for instance in the lettuce, it immediately alerts the pest and disease identification agent for diagnosis. It triggers the irrigation agent to adjust the water and fertilizer ratio, reducing labor costs by 30 percent.

The Shennong Large Model is also applied to diagnose livestock and poultry diseases, and has over 100,000 users in Inner Mongolia, Shanxi, and other areas.

Chinese company Weichai Lovol has released the first industrial AI large model in China that focuses on the dual scenario of "intelligent agricultural machinery + smart agriculture." It is used in over 70 smart farms across the country, covering more than 633,000 hectares.

The first version of a comprehensive planting large model, "iMAP," is undergoing application verification in major grain-producing areas such as Inner Mongolia and northeast China. The cumulative pilot area for crops like corn is now 67,000 hectares.

China's grain output in 2025 reached 715 million tonnes, up by 1.2 percent year on year, with agricultural scientific and technological progress contributing over 65 percent of the growth rate.

The coverage of high-quality seeds is over 96 percent, and the application of intelligent agricultural machinery increased by 38 percent year on year.

Tech Commercialization Soars to New Heights

Edited by LU Zijian

Since the start of China's 14th Five-Year Plan period (2021-2025), the country has deepened its reform of the mechanism of applying sci-tech achievements in real-world practices, improved policy support and market services, and achieved steady growth in both the scale and quality of applied scientific and technological outcomes, according to a State Council report submitted to the Standing Committee of the National People's Congress for deliberation on December 22.

From 2020 to 2024, the total transaction value of technology contracts nationwide surged from 2.83 trillion RMB to 6.84 trillion RMB, a growth of 141.7 percent, the report noted.

An institutional framework has been basically established for the application of sci-tech achievements. China has delegated the rights to use, dispose of, and benefit from sci-tech achievements, clarified the reward ratios for contributors, improved the open patent licensing system, and strengthened the legal provisions governing technology contracts, according to the report.

The application of sci-tech achievements from universities and research institutes was also reformed with promising results. By the end of 2024, there were 2,364 technology transfer institutions established by universities and research institutes, an increase of 21 percent compared with 2020. The total transaction value of the contracts related to the transfer and application of sci-tech achievements by universities and research institutes reached 226.91 billion RMB in 2024, growing by 81 percent compared to 2020.

Enterprises also played a crucial role in advancing the application of sci-tech achievements. In 2024, enterprises' R&D investment comprised more than 77 percent of the national total R&D expenditure in China, and their valid invention patents accounted for 73.7 percent of the national total. Enterprises commissioned universities and research institutes to undertake technical development, consulting and service projects, with a total contract value of 201.07 billion RMB, marking a 1.9-fold increase compared to 2020.

The country's technology transfer service system has been largely established, and the service system for startups and incubation has been further improved, according to the report. By the end of 2024, there were over 15,000 incubation institutes nationwide, with over 500,000 enterprises and teams under incubation, and almost 6,000 companies cumulatively nurtured have been listed or quoted in capital markets.

In addition, China accelerated the establishment of a sci-tech finance system aligned with scientific and technological innovation, empowering the application of sci-tech achievements. Data shows that the National Fund for Technology Transfer and Commercialization has invested in over 700 technology-based enterprises, driving the establishment of local funds with a total scale exceeding 140 billion RMB.

The report said China plans to accelerate formulating policies and measures to advance the deep integration of sci-tech innovation and industrial innovation, and promote the application of sci-tech achievements.

Shenzhen: Undisputed Innovation Capital

Case Study

By Staff Reporters

China's first large-scale, dedicated optical quantum computer manufacturing plant was recently established in Shenzhen, Guangdong province, marking the country's giant leap from research to mass production of such high-tech equipment.

Shenzhen, as one of China's four Special Economic Zones, has been committed to the deep integration of sci-tech innovation with industrial innovation over the past five years, improving commercial development patterns and industrial systems, and its products are being shared globally.

Innovation drives enterprises

Headquartered in Shenzhen, China General Nuclear Power Corporation (CGN) has developed China's third-generation nuclear reactor technology, centered on Hualong One reactors with independent intellectual property rights. Meanwhile, CGN has played a leading role in the nuclear energy industry chain, driving over 5,400 upstream and downstream enterprises to achieve the independent production of more than 400 key types of equipment.

Statistics show that in Shenzhen, over 90 percent of research institutions, personnel, funds and invention patents come from enterprises. In 2024, Shenzhen's R&D expenditure exceeded 245 billion RMB, among which enterprises invested nearly 230 billion RMB, accounting for over 93 percent.

In this tech-fertile region with active innovation ecosystems, tech giants like Huawei and Tencent have firmly established their roots, while unicorns such as DJI and UBTECH are on the rise. In 2024, the number of national high-tech enterprises in Shenzhen exceeded 25,000, averaging 12 per square kilometer.

Upgrading industrial system

The biomanufacturing industry is booming in Shenzhen, becoming a typical representative of new quality productive forces and a new engine for economic development. At present, Shenzhen has established a complete industrial system for biomanufacturing, with nearly 400 related enterprises.

The upgrading of traditional industries in Shenzhen is accelerating. In the Skyworth Technology Industrial Park, 5G technology is reshaping the production process: 5G + 8K cameras monitor the operation of workshops in real time, maintenance personnel automatically obtain equipment parameters through AR glasses, and AGV carts independently plan their paths.

There is an impressive modern production line in Skyworth's smart factory, which can produce 75-inch TVs in the morning and switch to producing 100-inch ones in the afternoon. Wu Wei, the chief engineer at Skyworth, said that after upgrading the production line, the production efficiency has doubled.

Shenzhen is accelerating the development of industrial clusters and high-end industries. The Shenzhen Institutes of Advanced Technology, under the Chinese Academy of Sciences, has taken the lead in establishing platforms and setting up the national bio-manufacturing industry innovation center with enterprises. It has also gathered a multidisciplinary team of over 1,400 specialists to facilitate industrial innovation and upgrading.

Going global

Local start-up Bambu Lab has transformed 3D printers from professional equipment into consumer products through technological innovation. Xu Han, head of the 3D model community of the enterprise, said, "We have built the largest 3D model community in the world. The number of 3D models has exceeded one million, and we have ranked first in global desktop 3D printing equipment sales for three consecutive years."

The global influence of technological innovation is not only seen in enterprises but also in clusters. To date, about 14 percent of the world's smartphones, 12.5 percent of new energy vehicles and 70 percent of consumer drones are produced in Shenzhen.

In the first three quarters of 2025, the total value of imports and exports of high-tech products in Shenzhen exceeded 1,800 billion RMB, accounting for 56 percent of the city's total trade volume, with a year-on-year growth of 11 percent. Of this figure, exports reached 923 billion RMB, increasing by nearly 10 percent, according to the Shenzhen Municipal Bureau of Commerce.

International Cooperation

China-ASEAN Cooperation Upgraded in 2025

Edited by WANG Xiaoxia

In 2025, against the backdrop of the severe impact of unilateralism and protectionism on the global economic and trade order, China and ASEAN steadily advanced cooperation and development, and jointly promoted a closer China-ASEAN community with a shared future.

China has always supported ASEAN and worked with its member countries to maintain the stability of the region's trading system and the smooth operation of regional industrial and supply chains.

In the first 11 months of 2025, ASEAN was China's largest trading partner. China's imports and exports with ASEAN exceeded 930 billion USD, up 8.5 percent year on year.

Through high-level opening up, China has continuously shared the opportunities of its super-large market with ASEAN countries.

In the first 10 months of 2025, the trade volume of agricultural products and food between the two reached 51.3 billion USD, increasing by 8.9 percent year on year. China's imports of dried and fresh fruit from ASEAN exceeded 10 billion USD, accounting for more than two-thirds of its global imports.

Cross-border connection projects have injected impetus into regional prosperity. For example, the China-Laos railway and Jakarta-Bandung high-speed railway have driven economic development along their routes.

Industrial parks are further promoting the integration of industrial chains. The China-Malaysia Qinzhou Industrial Park and Malaysia-China Kuantan Industrial Park under the model of "Two Countries, Twin Parks" have boosted regional growth.

Flagship projects such as the China-Singapore Suzhou Industrial Park are contributing to the development of regional economy and society.

The China-ASEAN Free Trade Area 3.0 Upgrade Protocol, signed in Kuala Lumpur, Malaysia, on October 28, marks the China-ASEAN free trade area cooperation and regional economic integration moving beyond trade and investment liberalization and facilitation.

The upgrade also covers new, high-potential fields like digital economy, green economy, supply chain interconnectivity, competition and consumer protection, and micro, small, and medium-sized enterprises.

The China-ASEAN Year of People-To-People Exchange 2024-2025 concluded in December. Over the past two years, China and ASEAN have jointly held nearly 200 people-to-people and cultural exchange activities, promoting cultural affinity and mutual understanding.

China has launched the "ASEAN Visa" for the 10 ASEAN countries and ASEAN observer Timor-Leste, on the basis of comprehensive mutual visa exemption with countries such as Singapore, Thailand and Malaysia, as well as the issuance of the "Lancang-Mekong Visa" for Mekong River nations, to facilitate cross-border travel within the region.

From mutual visits to educational cooperation, from a significant increase in the number of two-way tourists to frequent cultural festivals and events, China and ASEAN have been constantly expanding channels for people-to-people exchanges, and the emotional ties between their people have grown stronger.

China Proposes New Air Quality Standards

Policy Express

By SUN Jin & LI He

China is proposing tighter national air quality standards that would lower allowable concentrations for key pollutants including PM2.5, PM10, sulfur dioxide (SO_2) and nitrogen dioxide (NO_2), the Ministry of Ecology and Environment (MEE) said on December 15 as it opened a public consultation on three draft ecological environment standards.

One draft is the ambient air quality standards (for comment) and the other two supporting technical specifications focus on strengthening limits for fine particulate matter (PM2.5) and inhalable particulates (PM10) and on tightening SO_2 and NO_2 thresholds to better protect public health.

From 2015 to 2024, China reduced its annual average PM2.5 concentration by 36 percent and cut the number of heavily polluted days by 68 percent, a major achievement in history. Despite this success, more efforts still need to be made.

Under the draft, secondary limits for PM2.5 would fall from an annual/daily 35/75 μg/m³ to 25/50 μg/m³. PM10 secondary limits would be lowered from 70/150 μg/m³ to 50/100 μg/m³. Limits for SO_2 and NO_2 would also be tightened, reflecting both their direct health impacts and their role in forming secondary PM2.5.

"Given current air quality and emissions-reduction measures, making 25 μg/m³ the annual target for PM2.5 can deliver larger health benefits and steer continued improvement," said He Kebin, an academician of the Chinese Academy of Engineering and dean of Tsinghua University's Institute for Carbon Neutrality.

The draft sets a two-stage implementation timetable. From 2026 to 2030, authorities would enforce transitional particulate limits — with PM2.5 annual/daily secondary limits at 30/60 μg/m³. From 2031, the fully revised limits for particulates, SO_2 and NO_2 would be applied nationwide.

Experts acknowledge near-term economic pressure. "Tighter standards will increase short-term spending on pollution abatement across sectors," said Zhang Shiqiu, a Peking University environmental sciences professor. He stressed, however, that stricter standards will drive industrial and energy-structure upgrades and that implementation costs are likely to be far outweighed by health benefits, supporting sustainable development in the long term.

The Palace Museum in Beijing, capital of China. (PHOTO: VCG)

Beyond Headlines: China's Positive Momentum in 2025

Voice of the World

Edited by QI Liming

A humanoid robot conducts data collection at the Humanoid Robot Innovation Center in Hubei province. (PHOTO: XINHUA)

In 2025, China marched forward with energy and determination in the surging tide of the times. Many foreign media praised China as a trustworthy and compelling nation.

Sci-tech innovation leading global transformation

In their year-end reports, many international media outlets focused on China's sci-tech innovation capabilities. Among over 15,000 recent news reports about China from more than 100 media outlets around the world, "AI" and "technology" were high-frequency words. With its continuous sci-tech achievements, China's ranking in the Global Innovation Index rose from the 34th place in 2012 to the 10th place in 2025.

In U.S. magazine *Science*'s 2025 Breakthrough of the Year, the unstoppable growth of renewable energy topped the list. It pointed out that China now dominates the global production of renewable energy technologies, making 80 percent of the world's solar cells, 70 percent of wind turbines, and 70 percent of lithium batteries, at prices no competitor can match. China's burgeoning exports of green tech are transforming the rest of the world, too.

A report written by *The New York Times* analyzed China's production of electric vehicles, which far exceeds that of other countries, indicating that Chinese automakers are adept at understanding consumer preferences and carrying on with sci-tech innovations.

The Economist focused on China's progress toward becoming an innovation powerhouse in an article and explored the reasons behind it. It said China is accelerating its advancement in two cutting-edge technologies: autonomous driving and innovative drugs, which fully demonstrate China's strong innovative capabilities.

China is no longer merely the "world's factory," it is shaping "the lifestyle of the future." Saudi daily *Al Riyadh* reported that Chinese cities like Shenzhen, Suzhou, and Hangzhou have now become synonymous with sci-tech innovation. China is organically integrating technologies such as AI with people-oriented urban planning concepts.

Unstoppable economic vitality

By the end of 2025, major international institutions raised their forecasts for China's economic growth rate. The World Bank, the International Monetary Fund, and the Asian Development Bank each raised their estimates by 0.4, 0.2, and 0.1 percentage point respectively.

The international community believes that China's economy is stable and improving, with long-term growth potential. They also consider China's economic foundation solid with strong resilience and great potential.

"Never underestimate China," Bloomberg wrote in a December article. By the end of the year, all pessimistic predictions about China's economy had proven incorrect. "China remains the most dynamic 'factory' in the world."

"China's opening-up is an invitation for all countries to move towards common prosperity," a column in the U.S. magazine *Eurasia Review* in December said.

China's industrial system is "an important guarantee for multinational enterprises to maintain global competitiveness," according to the *Financial Times* of the UK. It noted that with a complete industrial chain system, continuously upgraded manufacturing capabilities and strong market potential, China is attracting an increasing number of European enterprises to expand their investment in the country.

The European website Modern Diplomacy said in an article that as China promotes economic development models driven by domestic demand, stimulated by consumption, and based on internal growth, China's economy is expected to achieve significant growth in fields such as high technology, intelligent manufacturing, green energy, and service consumption in 2026.

Let Quantum Technology Better Serve Us

Opinion

By LIANG Yilian & ZHANG Mengran

As 2025 gives way to 2026, a field once confined to laboratory benches and theoretical debates has surged to the forefront of global science and technology.

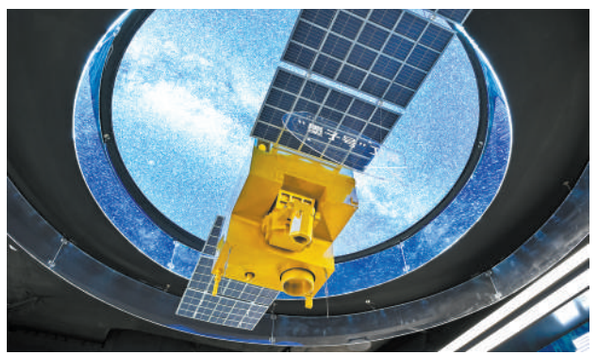
Quantum technology — long viewed as distant and abstract — is now riding the crest of the world's technological wave, propelled by decades of accumulated breakthroughs.

This momentum is reflected in the United Nations' designation of 2025 as the International Year of Quantum Science and Technology.

In China, the "Zuchongzhi 3.0" quantum computer, developed by the University of Science and Technology of China together with multiple research institutions, set a new world record by demonstrating quantum computational advantage in a superconducting system.

Across the Pacific, Google's "quantum echo" experiment achieved speeds up to 13,000 times faster than classical supercomputers for specific tasks, underscoring how rapidly quantum research is reshaping the global innovation landscape.

Quantum science is increasingly exerting its influence on the macroscopic world. Yet as this century-defining scientific revolution accelerates, a fundamental question persists: Why invest so much effort in exploring a realm that often appears detached from practical reality?



The model of the Micius quantum communication satellite. (PHOTO: XINHUA)

The answer lies in its potential. Many concepts in quantum mechanics completely overturn the logic and experience that we take for granted. For example, the switch of a quantum lamp can be both "on" and "off" simultaneously, settling into a definite state only when it is observed. This kind of "counterintuitive" phenomenon is a hidden cornerstone of the fortress of modern technology.

In fact, quantum mechanics has long been part of daily life. The semiconductors at the heart of smartphones depend on the quantum energy band theory, while the magnetic resonance imaging used in hospitals is based on the quantum spin of atomic nuclei.

What lies ahead is a deeper transformation. As quantum computing, quantum communication, and quantum sensing mature, our ability to process information and reshape the physical world may undergo a disruptive leap.

Among these advances, the most transformative is the liberation of computing power. Quantum bits enable exponential growth in computational capacity. This opens up new possibilities for tackling complex challenges that have long plagued the world — from designing life-saving drugs and optimizing carbon capture and storage solutions to building more robust financial models. Where traditional computing falls short, quantum computing offers a powerful new tool.

The quantum world also compels us to abandon rigid "black-and-white" thinking and accept uncertainty at the microscopic scale. This shift in mindset has given rise to vibrant technological breakthroughs.

The design of new superconducting materials, for example, stems from a deep understanding of quantum electron behavior at low temperatures. China's Micius satellite translates quantum phenomena into communication security.

Recognizing its strategic value, many countries have elevated quantum research to the level of national policy. The U.S. has enacted the National Quantum Initiative Act, the European Union has launched its decade-long Quantum Technologies Flagship initiative, and countries including Japan, Canada, South Korea, and Australia have unveiled their own quantum roadmaps.

In China's *Recommendations of the Central Committee of the Communist Party of China for Formulating the 15th Five-Year Plan for National Economic and Social Development*, quantum technology is identified as a potential new driver of economic growth.

Quantum technology is no longer far away from our lives — it is rapidly coming within reach. In an increasingly interconnected world, continued openness and international cooperation will be essential. If guided wisely, quantum science may become a shared tool for addressing global challenges such as energy security and information safety, ultimately serving as a powerful engine for human progress.

Unwise to Decouple from an Innovative China

Comment

Edited by QI Liming

China has become a major driver of global innovation, as it develops fast in the field of science and technology through multi-dimensional innovation and cooperation. Attempting to decouple from China is not only impractical but also counterproductive.

An article posted on *The Hill* wrote that the U.S. policy of strategic decoupling from China, initiated under the premise of national security and economic resilience, has become one of the most defining and contentious features of 21st century global commerce. Almost a decade after the first major tariffs were imposed, the results are becoming clear: the strategy is profoundly confusing American allies, penalizing American innovation, and inadvertently accelerating China's technological independence.

The financial cost to American industry is staggering. NVIDIA, a key innovator in the AI sector, is a prime example. The on-again, off-again chip restrictions imposed throughout 2025 have already cost the company billions in anticipated revenue.

These are not trivial numbers. This revenue, which American companies would typically reinvest in domestic research, development and high-wage jobs, is now simply vanishing from U.S. balance sheets.

According to the Council on Foreign Relations, U.S. consumers have benefited from lower prices, and U.S. companies have profited immensely from access to China's market.

In a 2019 study, economists Xavier Jaravel and Erick Sager found that increased trade with China boosted the annual purchasing power of the average U.S. household by 1,500 USD between 2000 and 2007.

A 2023 report by the U.S.-China Business Council, an industry group, found that exports to China supported more than one million jobs in the U.S., or about 0.5 percent of the civilian labor force.

Currently, economic globalization is irreversible. As a key link in the global industrial chain, China's market size and potential have an irreplaceable appeal to enterprises from all over the world. Attempting to "break away" forcibly with China will not help solve America's problems. Instead, it will put the implementer in a passive position and hinder its own development.

Protectionism Won't Make U.S. Drone Industry Great

Clear Voice

By SUN Jin & HU Dingkun

The U.S. Federal Communications Commission (FCC) recently added all foreign-made unmanned aircraft systems (UAS) and critical components to its national security "Covered List." This move means that new models of foreign-made drones and critical components will no longer be authorized for sale in the U.S. Only those previously approved by the FCC may remain on the market.

Although the ban is framed as country-neutral, it primarily targets China, which dominates the global civilian drone market with a share of between 70 and 80 percent. In the U.S., around 90 percent of consumer drones and 70 percent of industrial drones are produced in China, primarily by DJI.

Besides complete drone systems, China is also a major global producer of key civilian drone components, including motors, batteries and sensors.

The Royal United Services Institute estimates that China supplies 80 percent of complete systems and components for the global small and medium-sized civilian drone market.

CNN said the FCC's decision was the culmination of years of efforts to restrict Chinese drones.

The claim of national security risks is merely an excuse. For years, Chinese drones manufactured by DJI have passed security tests conducted by multiple authoritative global institutions.

In 2018, U.S.-based Kivu Consulting conducted tests and concluded that DJI users' data privacy was protected. One year later, the U.S. Department of the Interior conducted a 15-month evaluation of DJI government edition drones and ultimately affirmed DJI's data security solution.

In 2020, Booz Allen Hamilton Consulting tested multiple DJI government and enterprise edition drones and confirmed that DJI systems did not send any data to DJI, China, or other "unexpected" third parties. The results indicated their data security.

That same year, FTI Consulting performed a cybersecurity review of DJI hardware and software, finding no issues.

In 2022, Germany's TüV SüD tested several models of DJI drones and confirmed they possessed comprehensive security features, complying with both U.S. and EU cybersecurity standards.

Blocking new Chinese drones from the U.S. market amounts to trade protectionism, which serves a dual purpose: suppressing Chinese enterprises' expansion into the U.S. market and creating a protectionist space for the development of America's drone industry.

In its official documents, the FCC states: "President (Donald) Trump's Unleashing American Drone Dominance E.O. establishes that it is the policy of the U.S. to establish a resilient and strong American drone industrial base. In order to achieve this goal, we must cease the importation of all new foreign-manufactured UAS and UAS critical components."

The order further emphasizes supply chain integrity, American control of vital components, and prioritizing U.S.-made UAS.

China leads in drone technology innovation, accounting for approximately 70 percent of global patent applications in the sector. It is the result of its substantial technological accumulation, advanced and comprehensive manufacturing capabilities, and high-performance yet cost-effective products.

Banning Chinese drones will only deprive U.S. consumers and commercial users of freedom of choice.

As a result, the U.S. will not only struggle to access products equipped with the latest technology, but also will be forced to pay more for inferior alternatives — an outcome that directly violates market principles.

The FCC's decision has also triggered protests among commercial drone users in the U.S.

A *Wall Street Journal* survey of 8,000 U.S. drone pilots found nearly 43 percent believe the ban will have an "extremely negative" or "potentially business ending impact" on their companies, with some users already stockpiling drones and components.

The Royal United Services Institute stated in a recent report that drones without Chinese components could cost up to 10 times or more.

It is clear that trade protectionism will not make the U.S. drone industry stronger. A tech industry requires open markets and fair competition to thrive. Without the competitive pressure and innovation drive fostered by Chinese products, the U.S. drone sector risks losing vitality, stagnating in complacency, and falling further behind in both technological advancement and cost efficiency.

Hi-Tech

Construction Goes Smart as Robots Take Lead

By Staff Reporters

With the wide adoption of BIM (building information modeling) technology, prefabricated construction and robotics, China's construction sector is increasingly defined by standardization, industrialization, intelligence and green development.

At the Chongqing International Expo Center in southwest China, the transformation is on display. A plastering robot scans wall surfaces with high-precision cameras, controlling errors within 0.3 millimeters while completing three square meters of work per minute — four times faster than manual labor.

Nearby, welding robots have replaced workers in high-temperature, high-risk crouching tasks, enabling a single operator to oversee multiple machines and achieve more efficient human-machine collaboration.

These scenes were part of the third National Construction Robot Competition and Smart Construction & Building Robotics Exhibition recently held in Chongqing. A total of 109 organizations from more than 20 provincial-level regions presented 146 innovative achievements, demonstrating how smart construction is moving from isolated technological breakthroughs to full-scenario deployment.

A robot exhibited by Shenzhen BrightMaster Robotics. (COURTESY PHOTO)

Foreign Experts Congratulate Science and Technology Daily on Its 40th Anniversary

Editor's Note

As *Science and Technology Daily (S&T Daily)* approaches its 40th anniversary, we are humbled by the warmth and wisdom shared with us by scientists from around the world. Their words remind us why this work matters, not just reporting breakthroughs, but connecting people through science.

Over the years, we have strived to make complex ideas clear, to bring research out of labs and into public conversation, and to show how innovation shapes lives. Researchers and scholars have placed their trust in us, calling our pages "a window," "a bridge," even "a daily ritual."

We are proud to stand with those who believe knowledge should be shared and real progress is driven by collaboration across borders.

This milestone is not ours alone. It belongs to everyone who reads us, writes for us, and interacts with us. Thank you for walking this path.

Manzoor Hussain Soomro

Vice President, Belt and Road International Science Education Consortium

On the occasion of the 40th anniversary of *S&T Daily*, I extend my heartfelt congratulations to its leadership as well as the team of talented science journalists and technical staff. *S&T Daily*'s journey for 40 years is not only a journey of consistent progress towards economic and socio-cultural development and prosperity of China, but it has also recorded and shared the continuous development with the Chinese.

It has educated billions of people around the world on the developments of science, technology and innovation (STI) in the world in general, but more so in China.

It also covers the stories of STI leaders from different parts of the world and their collaborations with Chinese institutions, including myself. It has interviewed me on different occasions on my lifelong effort of promoting youth science and science education and empowerment of girls and women, that I call the 40 percent talent of the world!

I cherish every interaction with *S&T Daily*, and wish them greater success beyond my lifetime.

Jon Garibaldi

Provost, University of Nottingham Ningbo China

On behalf of the University of Nottingham Ningbo China (UNNC), it is with great pleasure that I extend our warmest congratulations on the remarkable occasion of *S&T Daily*'s 40th anniversary.

For four decades, your publication has served as a vital bridge between academia and society, translating complex research into accessible insights that empower communities, inspire innovation, and foster global scientific dialogue. Your unwavering commitment to demystifying science and amplifying its societal value has made you a trusted voice in the global sci-tech landscape.

Our partnership is anchored in a profound alignment of beliefs. Together, we share the conviction that the true measure of discovery lies in its benefit to society, from pioneering technologies that transform industries into solutions that address the world's challenges.

As featured in your reports, the work of our scholars, from Dr. Adam Rushworth's hands-on engineering and sustainable manufacturing to Professor Enrico Marsili's research in green chemistry, vividly illustrates how the integration of theory and practice cultivates a new generation of problem-solvers.

Your coverage of these endeavors, alongside that of colleagues like Dr. Maria Julia Trombetta and Professor Alain Chong, highlights a powerful synergy at UNNC: Our distinctive model of international research cooperation is intrinsically geared towards creating sustainable solutions for pressing global challenges.

By bringing these stories to light, you have showcased our core belief that such collaborative, impact-driven research is fundamental to scientific and societal progress.

As you celebrate this milestone, we look forward to deepening our partnership and advancing our shared mission: to enhance public scientific literacy, foster sustainable development, and inspire the innovators of tomorrow.

May *S&T Daily* continue to illuminate the path forward, connecting minds and hearts in pursuit of a more innovative and sustainable future.

Once again, congratulations on your 40 years of excellence and impact.

Denis Simon

Non-resident Fellow, Quincy Institute for Responsible Statecraft

It is with great admiration and respect that I extend my warmest congratulations to *S&T Daily* as you celebrate the 40th anniversary of your founding.

Launched at a pivotal moment in China's reform era, during the early stages of the country's historic transformation in science and technology, your publication has grown into one of the most welcome voices chronicling innovation, discovery, and scientific progress in China. Over four decades, you have earned a solid reputation for clarity, depth, and accuracy — qualities that have made your newspaper an indispensable platform for scientists, educators, policy makers, and international observers alike.

Since your first issue appeared, *S&T Daily* has served not only as a news outlet, but as a national bridge linking research communities, industry leaders, and government decision-makers. The paper has documented the evolution of China's S&T system from its early efforts to rebuild its research capacity, to the milestones in fields such as space science, biotechnology, quantum information, engineering, deep-sea exploration, and artificial intelligence. Your reporting has helped citizens across China better understand the opportunities and challenges presented by new technologies, while at the same time providing the scientific community with a reliable platform to share breakthroughs, debate ideas, and evaluate the implications of new knowledge.

Equally important is your role on the global stage. At a time when science and technology increasingly transcend borders, *S&T Daily* has served as a window through which the world can observe, interpret, and engage with China's rapidly advancing innovation landscape. Scholars, specialists, and media professionals around the world have turned to your reporting to better understand the thinking of China's scientific community, the direction of national research priorities, and the pace of discovery in laboratories, universities, and companies from Beijing to Shenzhen, from Shanghai to Chengdu. You have made China's S&T developments accessible to an international audience, enriching global dialogue and fostering scientific exchange.

As you look ahead to the next chapter, I have no doubt that *S&T Daily* will continue to illuminate the frontiers of knowledge, inspire curiosity, and deepen intellectual exchange across cultures and nations. On this important anniversary, I extend my warm congratulations and best wishes for your continued success in the decades to come.

Peter R. Taylor

Vice Dean, Tianjin University's School of Pharmaceutical Science and Technology

Why is it important to have media like *S&T Daily*?

Science and technology, generally, impact everyone's lives, every day, very often without our being conscious of it. So it is very valuable to have a reminder of this. Of course, typically what people want to learn or read about is "the latest thing," whether that is a new treatment for cancer, or technology like AI. And these things are typically newsworthy, so media outlets like to jump in them, to maintain or boost circulation, and perhaps to attract advertisements.

However, mainstream media often report these things in a rather superficial way, and, what is worse, incompletely, or even incorrectly. This is where it is essential to have media focused on science and technology, so that their readership can obtain an accurate and reliable description of whatever the latest thing is.

There is a different dimension to this sort of reporting, however, and one that is often overlooked.

In many cases, especially in basic research, the source of funding for the work, comes from government agencies, such as national science foundations. But they, in turn, obtain that money from people paying taxes, and it is entirely proper that taxpayers can see or read about what their taxes are paying for.

This is another function (an essential one, in my view) that is played by media such as *S&T Daily*: reporting on what the taxpayers' contributions are being used for.

It is not just about discussing the latest hot topics, but measured reporting more generally on progress in science and technology. *S&T Daily* does an excellent job of fulfilling these aims, so I am delighted to wish them a happy 40th birthday, and continued success in reporting for the next 40 years!

Francesco Faiola

Researcher, Research Center for Eco-Environmental Sciences of the Chinese Academy of Sciences

On the 40th anniversary of *S&T Daily*, I'm delighted to extend my warmest congratulations. As a scientist who has worked in China for over a decade, I offer these wishes with the same kind of poetic warmth you might feel from the Tuscan sun.

To me, the English edition of your newspaper has been like a Galileo's telescope — an elegant guide offering a clear view into the grand hall of Chinese science and technology. Starting my day by browsing it at my desk has become a cherished ritual. Its accurate translations and nuanced interpretations of major breakthroughs allow researchers like me, from diverse cultural backgrounds, to truly feel the pulse of innovation in China.

I'll never forget your coverage of my team's work on stem cell toxicology models. Your reporters, with the precision of Venetian craftsmen, brought the essence of our research to life. That article was more than just a report; it built a bridge for collaboration, allowing laboratories across the country to engage with our work almost instantly.

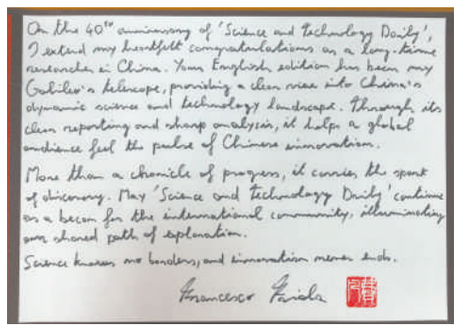
It is also an honor to have been asked for my opinion in your pages over the years. I still remember the first time I discovered *S&T Daily*. I asked myself, "Will I ever accomplish something here meaningful enough to be featured?" To now be both a subject and a contributor is a point of great personal and professional pride.

Though forty years may be a blink in history, your newspaper has achieved something extraordinary. You are not just a chronicler of progress, but a disseminator of the spark of innovation. When your reports, carrying the wisdom of China, travel across the oceans, and when young students feel inspired by your words to pursue their passion — that is the most powerful proof that technology can change the world.

I want to congratulate the entire staff at *S&T Daily*. Every interaction I have with you is filled with passion and warmth; you always make me feel at ease and valued.

May *S&T Daily* continue to shine as a bright lighthouse for our community, illuminating the path of exploration. I look forward to witnessing more scientific miracles with you in the next four decades — more moments where the "impossible" is turned into "possible."

In the spirit of the lamplight burning in laboratories everywhere, let us reaffirm: Science knows no borders, and innovation knows no end.



On the 40th anniversary of 'Science and Technology Daily', I extend my heartfelt congratulations on a long-time researcher in China. Your English edition has been my Galileo's telescope, providing a clear vista into China's dynamic science and technology landscape. Through its clear reporting and sharp analysis, it helps a global audience feel the pulse of Chinese innovation.

More than a chronicle of progress, it carries the spirit of discovery. May 'Science and Technology Daily' continue as a beacon for the international community, illuminating our shared path of exploration.

Science knows no borders, and innovation never ends.

Francesco Faiola

Handwritten congratulatory letter of Francesco Faiola.

Arup Neogi

Professor, Institute of Fundamental and Frontier Sciences, University of Electronic Science and Technology of China

Since your origin as *China Science and Technology News* in 1986 and the transition to *S&T Daily* in 1987, you have grown into an essential platform for China's innovation story and for the world to understand it.

Over four decades, *S&T Daily* has done something both difficult and deeply important: It has made science public.

By reporting cutting-edge advances, explaining the national science and technology agenda, promoting practical achievements, and advocating scientific spirit and literacy, your newsroom has strengthened the bridge between laboratories and society.

At the same time, you have helped connect Chinese science with global science. Your role as a "window" — linking China's scientific community to broader society and the world — matters more than ever, as international collaboration becomes essential for tackling shared challenges in health, climate, energy, and information technology.

Your reporting has repeatedly highlighted that cooperation can be built on openness, mutual benefit, and shared progress — values that sustain discovery across borders and generations.

On a personal note, I am grateful for your thoughtful coverage of scientists working in China, including your feature on my own journey and research in photonics and light-matter interactions. It captured a motivation many researchers share: to translate fundamental ideas into technologies that improve real lives, and to build bridges between disciplines and between nations.

As you enter your fifth decade, I hope *S&T Daily* continues to champion rigorous, accurate science journalism, amplify young voices, and deepen dialogue between China and the international community.