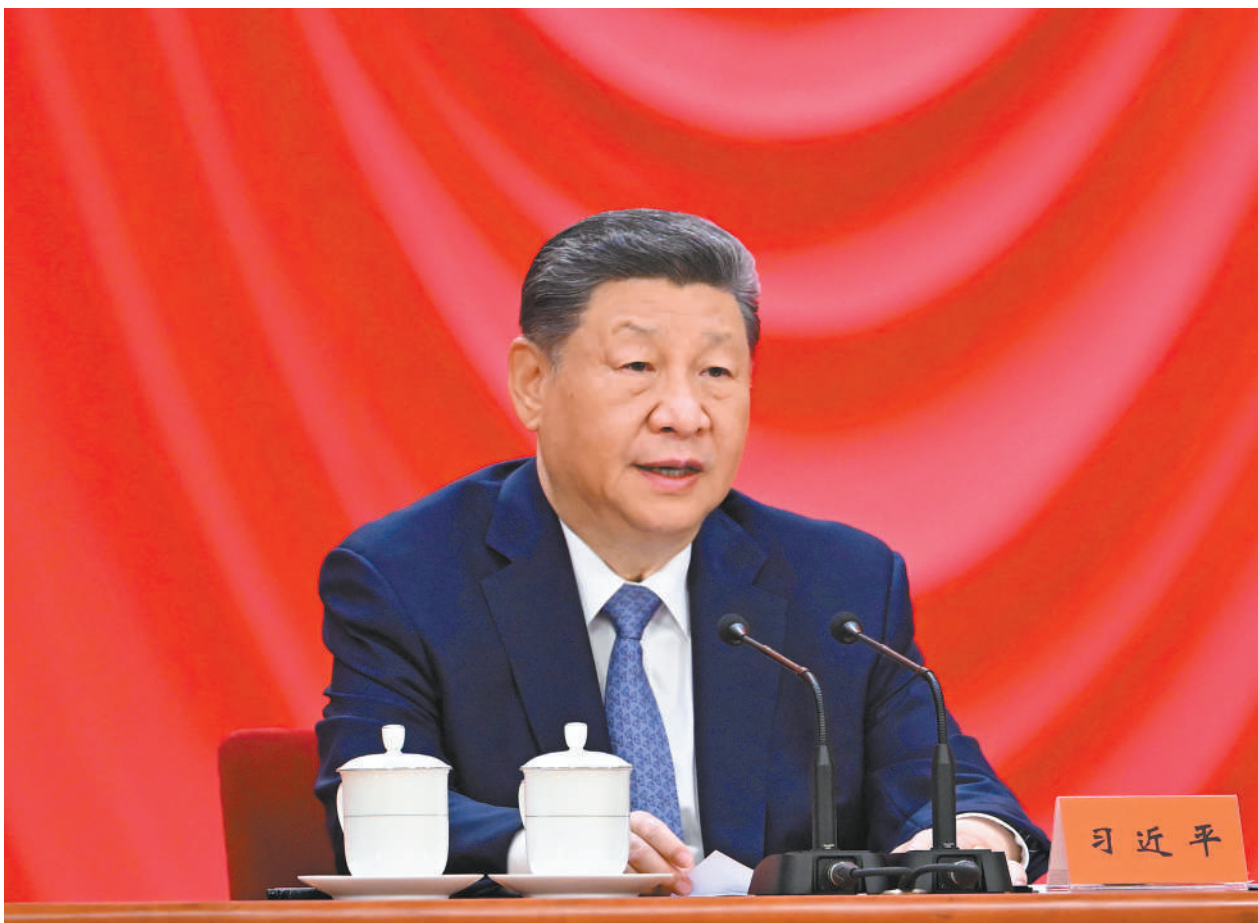


Science and Technology Daily

VOL.6-NO.248

JULY 11-12, 2026

Xi Calls for Advancing Chinese Modernization Through Sci-tech Innovation



Chinese President Xi Jinping attends a meeting bringing together the national science and technology award conference, the general assemblies of the members of the Chinese Academy of Sciences and the Chinese Academy of Engineering, and the 11th national congress of the China Association for Science and Technology in Beijing, July 8, 2026. (PHOTO: XINHUA)



Chinese President Xi Jinping presents China's top sci-tech award for the year 2025 to Chen Liquan (R), a researcher at the Institute of Physics under the Chinese Academy of Sciences and a Chinese Academy of Engineering (CAE) academican, and Ben De (L), a researcher at the China Electronics Technology Group Corporation and a CAE academican in Beijing, July 8, 2026. (PHOTO: XINHUA)

Chinese President Xi Jinping on Wednesday called for accelerated efforts to achieve high-level self-reliance and strength in science and technology, and leverage sci-tech innovation to underpin and drive Chinese modernization.

Xi, also general secretary of the Communist Party of China (CPC) Central Committee and chairman of the Central Military Commission, made the remarks at a meeting in Beijing that brought together the national science and technology award conference, the general assemblies of the members of the Chinese Academy of Sciences (CAS) and the Chinese Academy of Engineering (CAE), and the 11th national congress of the China Association for Science and Technology.

He said the 15th Five-Year Plan period (2026-2030) is a critical phase for tackling tough challenges in building up the country's strength in science and technology.

"We must seize the historic opportunity, rise to the challenges of the times, accelerate efforts to achieve high-level self-reliance and strength in science and technology, and make steady progress toward the 2035 goal of becoming a leading country in science and technology," he said.

At the meeting, Xi presented China's top

sci-tech award for the year 2025 to Chen Liquan, a researcher at the Institute of Physics under the CAS and a CAE academican, and Ben De, a researcher at the China Electronics Technology Group Corporation and also a CAE academican. After presenting the medals and certificates to the two scientists, Xi shook hands with them and extended his congratulations.

Xi and other Party and state leaders, together with the two top-award winners, presented certificates to representatives of recipients of other awards.

Li Qiang presided over the meeting. Zhao Leji, Wang Huning, Cai Qi and Li Xi attended the meeting. Ding Xuexiang announced the award decision.

Xi noted that China is now accelerating its transition from a global participant and contributor in science and technology to a pioneer and leader, and has become one of the countries with the fastest growing innovation capacity.

Over the past two years, China has achieved a string of remarkable sci-tech breakthroughs, including Chang'e-6 completing humanity's first-ever sample return from the moon's far side, smart robots and drones making strides in both R&D

and industrial application, innovative drugs leaping from imitation and follow-on research to world-first development, as well as domestically-bred crop varieties covering over 95 percent of the country's farmland.

But Xi also pointed out that China still faces gaps in original innovation capacity, an imbalanced talent structure, and inefficient use of science and technology investment, which demand serious attention and resolution.

He stressed that the new round of sci-tech revolution and industrial transformation is profoundly changing the way humanity produces and lives, as well as the landscape of global development.

"We must adapt to the new situation and requirements, take more forceful measures to address the problems existing in China's sci-tech development, and make every effort to ensure the implementation of the various arrangements made by the Party Central Committee on sci-tech undertakings," he said.

Xi called for further strengthening of coordination in sci-tech strategic planning, policies and measures, major tasks, research strength, resource platforms, and regional innovation. "We

should improve the mechanisms for deploying and organizing major national sci-tech innovation tasks, and strengthen the self-sufficiency for sci-tech infrastructure," he said.

Major projects should be planned holistically across frontier fields like AI, quantum tech and life sciences, in priority sectors such as integrated circuits and advanced manufacturing, as well as in strategic domains, including deep sea, deep space, and deep earth, he noted.

Xi emphasized the need to promote the deep integration of sci-tech innovation with industrial innovation, opening up channels for accelerating the transformation of sci-tech achievements into real productive forces.

"Sci-tech innovation should highlight an application-oriented approach, while industrial innovation should raise scientific questions. We must strengthen the national technology transfer system, create diversified application scenarios and high-level industrial clusters, and facilitate the promotion, application and iterative upgrading of self-developed technologies and products," he said.

Xi also called for improving the intellectual property protection system and building a financial system compatible with sci-tech innovation.

When speaking of cultivating young sci-tech talents, Xi pointed out that research should be integrated with education, and greater support should be provided to researchers to help them overcome practical challenges.

Efforts should be made to identify and nurture the teenagers' interests, specialties, scientific literacy and experimental skills, inspiring more promising youth to pursue careers in science and technology, he said.

Xi stressed the need to boost the effectiveness of innovation investment. During the 14th Five-Year Plan period (2021-2025), China's total R&D spending grew by an average of 10 percent annually, which was no small feat.

"Yet in practice, problems such as wasteful spending and inefficient duplication in investment still persist to varying degrees," he noted, calling for improving systems and management to ensure that every penny is not only spent right but spent well to match greater investment with greater efficiency.

He said that enterprises should be encouraged to increase their R&D spending, and broader social resources should be mobilized to support sci-tech innovation. *See page 2*

Sci-tech Development Goals Outlined

By LU Zijian & LIU Yin

At a recent policy briefing in Beijing on promoting and improving people's well-being through high-quality development, Yin Hejun, minister of science and technology, elaborated on the key tasks for building China's strength in science and technology during the 15th Five-Year Plan period (2026-2030) while giving a systematic overview of the achievements in sci-tech innovation and the new situations and challenges.

Data shows that China's global standing in science and technology has improved, with the

country transforming from a technology follower into a major contributor to global innovation.

China's ranking in the Global Innovation Index released by the World Intellectual Property Organization (WIPO) rose from 34th in 2012 to 10th in 2025. China has ranked first worldwide in the number of international patent applications filed under the WIPO's Patent Cooperation Treaty for seven consecutive years and led in the number of papers published in high-level international journals for five consecutive years.

In addition, China has the world's largest number of lighthouse factories, factories recognized by

the World Economic Forum for their successful use of advanced technologies like AI. Its production and sales of new energy vehicles topped the world for 11 consecutive years.

Science and technology achievements have improved people's lives significantly. China's high-speed railway network has surpassed 50,000 kilometers in length; innovative medicines have witnessed rapid growth, with the world's first 5.0T whole-body magnetic resonance imaging system entering clinical use; the national average PM2.5 concentration has dropped to 28 micrograms per cubic meter. *See page 4*

APEC Business Leaders Recommend Openness, Synergy

By Staff Reporters

The third meeting of the APEC Business Advisory Council (ABAC) in 2026 produced a set of high-quality policy recommendations to be submitted at the APEC Leaders' Informal Meeting in November.

A news briefing by ABAC said, "Under the theme of openness, connectivity and synergy, ABAC will recommend that APEC reaffirm its commitment to free, open, fair, non-discriminatory, transparent and predictable trade and investment, while advancing practical, business-led ear-

ly deliverables toward the Free Trade Area of the Asia-Pacific."

Ren Hongbin, chairman of the 2026 APEC CEO Summit and president of the China Council for the Promotion of International Trade (CCPIT), attended the closing plenary and gave his remarks.

Over the four-day meeting, which concluded in Bangkok on July 9, more than 200 participants, including ABAC representatives, incoming members and experts from APEC's 21 economies, discussed regional economic integration, sustainable development, digital innovation and connectivity. *See page 2*

Energy Development Plan Sets 2030 Milestone Goals

Policy Express

By TANG Zhexiao

China will build a low-carbon, secure, and efficient new energy system by 2030, according to a blueprint issued by the National Development and Reform Commission and the National Energy Administration (NEA).

The plan for building a new energy system during the 15th Five-Year Plan (2026-2030) period envisions energy production capacity hitting 5.8 billion tonnes of standard coal by 2030.

Total installed power generation capacity will reach 5.4 billion kilowatts. Wind and solar power will make up 50 percent of installed capacity and become the mainstay of installed power capacity.

Non-fossil energy generation will also make up 50 percent of total electricity output as a dominant power source; coal and oil consumption will peak by 2030.

A series of milestone targets have been set to guide high-quality energy development in a scientific manner.

Energy security

Oil and gas reserves and production will be boosted, and oil substitution advanced.

Annual crude oil output will be stabilized at 200 million tonnes, with steady growth in natural gas production. The primary transmission capacity of natural gas pipeline networks will reach 500 billion cubic meters per year by 2030.

Production capacity and technical reserves for coal-to-oil and coal-to-gas conversion will be built up. Production capacity for green fuels tailored to local conditions will be developed in tandem. They include non-grain fuel ethanol, biodiesel, biomethane, sustainable aviation fuel, green ammonia and green methanol.

Green transition

A green and low-carbon energy consumption system will be built and green energy uptake raised.

The application of energy-saving and high-efficiency production technologies

and processes in the industrial sector will be scaled up, low-carbon and zero-carbon transport corridors constructed, and energy efficiency boosted in emerging industries such as computing power.

Household energy electrification will be elevated, with per capita annual residential electricity consumption reaching 1,500 kWh by 2030.

Open and smart charging facilities will be perfected, with the number of charging piles doubling to 40 million by 2030.

New energy infrastructure

Focusing on integrated hydropower, wind and solar projects, China will push forward hydropower development.

Conventional hydropower installed capacity will stand at around 410 million kilowatts by 2030, and new energy power generation will account for 30 percent of total electricity output.

Nuclear power will be developed safely and steadily based mainly on third-generation pressurized water reactor technologies, with operational nuclear

power capacity reaching approximately 110 million kilowatts by 2030.

An energy sci-tech innovation system underpinned by self-reliance and strength will be developed. Technological breakthroughs in and R&D of equipment for small modular nuclear reactors, fourth-generation nuclear reactors, offshore wind power, and advanced photovoltaic power will be accelerated.

International energy cooperation

China will strengthen international alignment of technologies and standards, promote integrated export of products, technologies, standards and services, and deliver benchmark green energy projects focusing on wind power, photovoltaics, hydrogen energy and energy storage.

It will also operate cooperation platforms including the Belt and Road energy partnership and the global clean energy partnership.

In addition, South-South renewable energy cooperation will be advanced, and a non-governmental international organization for nuclear power in China facilitated.

Case Study

Decoding Autonomous Driving in Mountainous Chongqing

By LU Zijian & YONG Li

As a mountain city, Chongqing is well known for its complicated and multi-tiered road network. But this also makes it a perfect test field for intelligent connected vehicles (ICVs) and autonomous driving technologies.

Chongqing University of Posts and Telecommunications (CQUPT) spearheaded the establishment of a municipal key laboratory for ICVs and vehicle-road coordination, conducting basic research and tackling key technological bottlenecks. The focus is on trustworthy perception, high-precision positioning, safety-oriented cooperative control, and vehicle-road-cloud integration.

"Traditional algorithms work well on plains, but not in Chongqing," Li Yongfu, head of the lab and a professor at the School of Automation of CQUPT, said.

Multi-level flyovers complicate path planning, while the urban canyon effect created by high-rise buildings leads to frequent GPS signal loss, Li said, adding that consecutive tunnels and steep slopes can instantly render vehicles relying on optical sensors effectively "blind."

A core issue that must be resolved for autonomous driving to achieve mass adoption in mountainous cities is ensuring that ICVs can operate safely, smoothly and efficiently despite incomplete perception, unstable positioning, communication latency and frequent traffic disturbances.

Rather than immediately rewriting code, researchers at the lab worked on modeling. They began by examining the system-level coupling among vehicles, roads, the cloud, humans and the environment, conducting an in-depth analysis of vehicle motion under complex disturbances.

This is like doing a dissection for the mountain city's transportation. The researchers not only need to know where the traffic congestion is, but also why there is congestion and how vehicles interact in this process.

Cen Ming, a professor at the lab, said logistics is one of the most promising sectors for the large-scale deployment of autonomous driving. Although roads in ports and parks are relatively closed, their operating conditions are highly complex. Autonomous vehicles operating in these environments must cope with key challenges such as uncertainties in environmental perception, positioning degradation caused by global navigation satellite system (GNSS) signal blockage, and insufficient reliability of autonomous decision-making in complex scenarios.

The laboratory established a collaborative multi-source perception mechanism for complex scenarios by overcoming technical barriers in the integration of information from multiple sensors, including vision sensors, LiDAR and millimeter-wave radar.

To address the widespread challenge of GNSS signal blockage in mountainous areas and ports, the team developed a high-precision positioning technology that integrates satellite navigation, inertial measurement and environmental perception, keeping vehicle positioning error within 10 centimeters.

The lab has developed a full-chain autonomous driving technology system covering perception, localization, decision-making and control. The system has been fully validated in real-world open-road scenarios, providing replicable and deployable solutions for the large-scale deployment of autonomous driving in scenarios such as urban last-mile delivery, industrial park logistics and port cargo transportation.



A view of the Shapingba district in Chongqing municipality. (PHOTO: VCG)

Guideline Propels Industrial Internet into AI Era

By TANG Zhexiao & CUI Shuang

China has unveiled a blueprint for its industrial Internet, setting targets to build 50,000 industrial 5G private networks and drive the value added of the industrial Internet core industry past 2.5 trillion RMB by 2030.

Jointly issued by eight authorities led by the Ministry of Industry and Information Technology (MIIT), the guideline marks a decisive leap toward integrating artificial intelligence (AI) into the nation's manufacturing backbone.

As China's industrial Internet enters a critical stage of development, the rapid rise of AI is presenting unprecedented opportunities.

"Shallow intelligence is evolving into 'comprehensive, deep intelligence,'" said Yu Xiaohui, president of the China Academy of Information and Communications Technology (CAICT), at the 2026 Industrial Internet Conference in

Beijing on June 30.

"We are transitioning from basic data analysis to complex reasoning and autonomous decision-making, from localized optimization of single equipment to holistic optimization across entire supply chains, and from assisted decision-making to end-to-end autonomous execution," Yu said.

He added that the industrial Internet's vast application scenarios and massive data accumulation are expected to drive AI breakthroughs, accelerating "intelligent emergence" in the physical world.

The blueprint outlines phased goals: By 2030, new infrastructure will be deployed on a large scale, and roughly five globally influential comprehensive platforms will be established. By 2035, China aims to build a world-leading industrial Internet infrastructure system and an internationally advanced technological and industrial framework.

"Industrial Internet officially entered a new phase of agent-based industrial Internet in 2026," said Wu Hequan, an academician of the Chinese Academy of Engineering.

Wu explained that by leveraging industrial intelligent agents, large models, and knowledge graphs, closed-loop autonomous control spanning multiple devices and production lines can be achieved. This will realize the Agent-as-a-Service model, endowing production systems with self-learning, self-adaptation, and self-evolution capabilities.

According to the latest MIIT statistics, the scale of China's core industrial Internet sector currently exceeds 1.6 trillion RMB, driving approximately 2.5 trillion RMB in industrial added value. Nationwide, more than 25,000 "5G + Industrial Internet" projects have been launched.

As technologies like 5G-A and AI increasingly integrate with industrial

scenarios, the "5G + Industrial Internet" model is witnessing dual breakthrough in both technological iteration and in-depth application, according to Tang Libo, deputy director of the Institute of Technology and Standards at CAICT.

To achieve these goals, the guideline details 18 specific tasks across five dimensions: infrastructure development, technological innovation, integrated application, security assurance, and industrial ecosystem construction.

Key tasks include guiding local authorities to cultivate comprehensive, industry-specific, and specialized industrial Internet platforms.

The document also emphasizes accelerating the development of the national industrial Internet big data center system, improving fundamental rules for industrial data circulation, and piloting industrial data asset registration platforms at the city level.

National Standard for Combined Driver Assistance Systems Released

By LI Linxu

China has unveiled a mandatory national standard regarding safety requirements for combined driver assistance systems for intelligent and connected vehicles (ICVs), the Ministry of Industry and Information Technology said on July 2.

The standard is scheduled to take effect on January 1, 2027. It was recently approved and released by the State Administration for Market Regulation and the National Standardization Administration.

In recent years, China's ICV industry has entered a period of rapid

development. Data shows that since 2026, 70 percent of new passenger vehicles sold in China have been equipped with combined driver assistance systems, while that of models featuring Navigate on Autopilot (NOA) capabilities have exceeded 30 percent.

The newly released national standard fills China's regulatory gap in the safety baseline for combined driver assistance system products. It will provide a key technical basis for industry access, quality supervision, and post-event traceability, playing a vital role in elevating the safety of ICVs and ensuring the healthy and sustainable development of the industry.

Tailored to the country's needs of industrial growth and regulatory oversight, the newly released standard strikes a well-thought-out balance between technical feasibility, product compatibility, and operational practicality.

Taking full account of various product models and technical routes, it sets out tailored safety requirements for three types of combined driver assistance system products: basic single-lane, basic multi-lane, and NOA systems.

In light of China's specific road conditions and traffic features, it sets forth baseline requirements to ensure the safe operation of combined driver assistance

systems across multiple dimensions, including functional requirements, data recording, and vehicle manufacturer safety guarantees.

Considering that the core positioning of the system is to assist driving, it outlines requirements for human-machine interaction, instruction manuals, and user training, providing a foundational guarantee for proper collaboration between users and the system.

It also establishes a multi-tiered evaluation methodology encompassing track tests, road tests, and document verification to comprehensively assess the system's safety capabilities.

people," he said.

Ethical standards and guidelines for key areas should be clarified, and the assessment, monitoring and early warning, as well as emergency response of sci-tech security risks, should be enhanced, he added.

Xi urged the CAS and the CAE to rally the nation's scientific community to keep abreast of the new sci-tech revolution and scale new heights in global science, while requiring the China Association for Science and Technology to go all out to serve researchers,

innovation-driven development, public scientific literacy enhancement and sound policymaking by the Party and government.

Li Qiang pointed out that Xi's important speech fully affirmed the nation's major scientific achievements in recent years, analyzed the new situation facing sci-tech development and laid out clear requirements for implementing the Party Central Committee's plans for sci-tech development during the 15th Five-Year Plan period.

Wednesday's meeting honored 258

projects and 11 scientific and technological experts. Among them, 51 projects received the State Natural Science Award, 58 projects the State Technological Invention Award, and 149 projects the State Scientific and Technological Progress Award.

In addition to the two recipients of the top award, nine foreign experts were conferred the China International Science and Technology Cooperation Award.

Source: XINHUA

From page 1

Xi pointed out that it is necessary to deepen reforms on sci-tech evaluation, making it a good "conductor's baton." Project reviews, institutional assessments, and talent evaluations should all be guided by innovation capability, quality, actual effect, and contribution.

He stressed the need to strengthen governance of sci-tech ethics and security. "Science and technology should pursue positive and ethical progress, maintain security and controllability, and deliver benefits to the

China Shock 2.0? Real Challenge Lies Elsewhere

Clear Voice

By LIANG Yilian & ZHANG Jiaxin

Recently, some Western media outlets and commentators have once again revived the so-called "China Shock 2.0" narrative.

This is not the first time such an argument has surfaced. Following China's accession to the World Trade Organization in the early 2000s, critics popularized the original "China Shock" thesis, claiming that Chinese imports had devastated traditional manufacturing industries in advanced economies.

Today, the narrative has been repackaged as "China Shock 2.0," with the focus shifting to China's "new trio" industries — electric vehicles (EVs), lithium-ion batteries, and solar photovoltaics. Rather than acknowledging China's growing technological capabilities and manufacturing competitiveness, some critics portray these sectors as a new threat to global markets.

Britain's *The Telegraph* warned that "China Shock 2.0" could "destroy Europe as we know it," while French President Emmanuel Macron argued that Chinese exports are "literally killing a large part of the European industry."

Although framed as concerns over trade and industrial competition, such claims often expose domestic structural challenges — including sluggish industrial adjustment and weakening innovation capacity. More fundamentally, they reflect growing anxiety in parts of the West over China's rapid technological progress and industrial upgrading, while seeking to provide fresh justification for their protectionist policies.

According to *The New York Times*, David Autor, the MIT economist whose research gave rise to the term "China Shock," has pointed out that "China Shock" research really shows that it is not trade that is to blame, but that the U.S. failed to help workers and local economies adjust to industrial change. Autor has also acknowledged that China imports accounted for only part of U.S. manufacturing job losses; automation



Fangxian county in Central China's Hubei province gives full play to its solar energy resources and taps idle factory rooftops to build photovoltaic projects in industrial parks, June 29, 2026. (PHOTO: VCG)

and technological change also played a major role.

Kristalina Georgieva, IMF managing director, recently said Europe's innovation ecosystem faces serious internal challenges. Innovative companies often relocate abroad; the region lacks enough globally competitive technology giants to achieve scale in frontier sectors such as AI; and fragmented, increasingly complex regulations have narrowed businesses' room to innovate. Against this backdrop, blaming China's manufacturing success is far easier than confronting these structural weaknesses.

Some observers attribute China's industrial rise primarily to government subsidies. Yet the competitiveness of Chinese manufacturing cannot be explained by subsidies alone. The Cambridge Industrial Innovation Policy argues that beyond subsidies, a large engineering workforce and a comprehensive industrial system played an important role in China's ability to move up the ladder.

Official statistics show that between 2020 and 2022, China produced more than 5.2 million undergraduate graduates in science, technology, engineering, and mathematics. However, scale is not the only edge. China's edge also lies in the industrial system it has

built over decades, from reliable shipping and cost controls to its tightly integrated supplier network.

From an objective perspective, the improvement in China's manufacturing capabilities has not caused any shock to the world economy; on the contrary, it has been a massive dividend for global technological progress and the green transition.

The American Enterprise Institute, citing recent research from the U.S. National Bureau of Economic Research, noted that although China's rapid growth has reduced the U.S. share of global GDP, it has simultaneously increased overall U.S. welfare by allowing consumers to purchase goods at lower prices and enabling companies to benefit from cheaper and more efficient production inputs. As a result, "America looked relatively smaller, economywise — but became absolutely richer."

A report by the UK-based energy think tank Ember found that China's investment in clean energy has been instrumental in driving down the global costs of wind power, solar energy, battery storage, and EVs. At the Hamburg Sustainability Conference, which concluded on June 30, Achim Steiner, chair of the conference and former administrator of the United Nations Development

Programme, said China's expansion of clean energy and green industries has helped lower global renewable energy costs and accelerate energy transition. He added that China has "begun to develop the kinds of answers that much of the rest of the world today has also become a beneficiary to."

China's position in global value chains is evolving rapidly. It is no longer confined to the lower end of manufacturing but is increasingly moving toward the technological and industrial frontier across a wide range of sectors. This transformation is a natural consequence of the evolving international division of labor and is reshaping the nature of global competition.

Casting China as the culprit may be the most convenient way for some countries to deflect responsibility, but it does little to address the underlying causes of their own industrial challenges. Rather than amplifying the rhetoric of "China Shock 2.0," governments would be better served by embracing competition, investing in innovation, and strengthening their own economic fundamentals.

In the long run, the shared gains created by open competition are far more conducive to global prosperity than narratives that seek to manufacture confrontation.

makers Samsung and Mitsubishi Electric are all racing to close.

None of Europe's five best-selling air-conditioner brands have EU ownership. Haier, Gree, and Midea — all Chinese — together held about 32 percent of the European AC market by retail volume in 2025, according to Euro-monitor International.

Midea's air-conditioning design illustrates engineering tailored to overcome Europe's fragmented and layered regulatory and market barriers.

Its PortaSplit outdoor unit clips onto a window bracket, needs no drilling, and is classified as furniture rather than a fixture — sidestepping façade modification bans in cities like Paris. Its refrigerant charge is also capped at 1.99 kilograms, just under France's two-kilogram limit.

Bloomberg News quoted analyst Jeff Zhang as saying, "Overall, we expect strong demand for window-mounted air conditioners to drive year-on-year export sales growth for major Chinese manufacturers in summer months." Zhang forecast a "meaningful" boost in second- and third-quarter revenue growth.

Chinese products' high usage convenience, affordable pricing and installation cost savings will structurally benefit key manufacturers and consumers in the long run, according to Zhang. "This may become recurring if global warming persists."

Comment

'China Initiative 2.0' Revival Risks Undermine U.S. Innovation

By LIANG Yilian & ZHANG Mengran

Launched by the U.S. Department of Justice in 2018, the so-called "China Initiative" targeted a large number of Chinese-American and Chinese scientists in U.S. research institutions. The program became notorious for its aggressive pursuit of charges, loose allegations, and the chilling effect it created across academia.

Now, a similar atmosphere seems to be returning.

Analysts warn that U.S. government enforcement actions targeting Chinese scientists have clearly escalated. Robert Fisher, a former assistant U.S. attorney, recently said at an online panel hosted by the Asian-American Scholars Forum (AASF) that the U.S. has entered the "era of China Initiative 2.0."

Clay Zhu, a California-based lawyer, compared the administration's current approach with China Initiative 1.0, pointing out that enforcement has shifted from criminal prosecutions to civil actions.

"I think it's achieving its goal. It has not attracted so much public attention. It's quieter, but it's more effective," Zhu said. "The message is very clear and loud. Do not work with China."

His remarks suggest that a significant segment of U.S. stakeholders has not abandoned the logic of suppressing Chinese researchers, but is instead pursuing it through more aggressive forms.

Recent cases illustrate the trend. A Chinese researcher at Indiana University was arrested at the O'Hare International Airport in Chicago on the charge of allegedly "smuggling" E. coli DNA. In reality, E. coli is a routine laboratory substance for obtaining research samples that poses no security threat whatsoever. Yet FBI director Kash Patel framed the case on social media as a "global threat to our economy and food supply."

Even more controversial is a case involving a Chinese scientist at the University of Michigan accused of smuggling biological materials. An assistant U.S. attorney told the court, "I don't have evidence that she had evil intent," yet still pursued the prosecution.

Such indiscriminate enforcement has drawn criticism from even the U.S. legal and security community. Michael German, a senior fellow at the Brennan Center for Justice's Liberty and National Security Program and a former FBI special agent, called the China Initiative "an unmitigated failure that caused lasting harm to U.S. national interests." "Restarting it will only increase the self-inflicted damage to U.S. national security interests," he added. In his view, this is no longer simply a matter of prosecutorial overreach.

Behind these aggressive measures lies a deeper anxiety in the U.S. over

China's technological rise. In this context, "national security" rhetoric often serves as a veneer for eroding technological confidence and shifting power balances.

Paradoxically, the walls that are being built may trap the U.S. itself.

Chen Gang, a professor at the Massachusetts Institute of Technology (MIT) and a member of the U.S. National Academy of Engineering, said, "As a victim of the past China Initiative, I am disheartened by ongoing efforts in Congress to reinstate the misguided program. It is not only discriminatory, but also harms America's ability to attract top global talent."

Steven A. Kivelson, a professor of physics at Stanford University and a member of the U.S. National Academy of Sciences, warned that the China Initiative - and similar policies - serve as serious obstacles to recruiting outstanding students, scientists, and scholars to U.S. science and technology enterprises; they risk causing more serious harm to the U.S. economy and national security than the loss due to any of the intellectual property problem.

An article by American foreign-policy think tank Quincy Institute for Responsible Statecraft pointed to the core issue, "The erosion of U.S.-China scientific ties carries costs that extend far beyond research itself: It undermines innovation ecosystems, weakens U.S. higher education, and erodes the very openness that has historically constituted America's greatest competitive advantage."

A study published in the Proceedings of the National Academy of Sciences, jointly authored by researchers from Princeton University, Harvard University, and MIT, found that after the implementation of the China Initiative, departures of U.S.-based, China-born scientists increased 75 percent.

Gisela Perez Kusakawa, executive director of the AASF, said, "If we continue to treat scientists as threats instead of partners, we will lose the very people who power our progress."

Ironically, the U.S.' position as a global scientific powerhouse was built on an open research environment. By creating a hub that attracted the world's best talent, the U.S. accumulated enormous intellectual capital. Today, however, it appears to be dismantling that foundation with its own hands.

At a time when some U.S. policymakers continue to rely on outdated narratives to suppress Chinese scientific cooperation and sever academic ties, China has already demonstrated strong R&D vitality across multiple critical fields, becoming an important pole in the global innovation landscape. In the end, the closure and suspicion will not slow down China's technological progress; it will erode the innovative spirit that the U.S. once prided itself on.

Booming AC Sales in Europe Show How Cool Chinese Innovation

Voice of the World

Edited by QI Liming

Chinese air conditioners (ACs) have been selling like hotcakes in Europe, making headlines worldwide. Data shows that from January to May this year, China's exports of air conditioners to Western European countries such as France, the Netherlands, and Belgium doubled compared to the same period last year; in June alone, exports to Eu-

rope surged 72.8 percent year on year.

The surge in sales of Chinese air conditioners and other "cooling essentials" across Europe is a microcosm of China's manufacturing going global. The high demand for Chinese air conditioners in Europe presents another vivid testament to China's innovative resilience.

China exported nearly 28 billion USD worth of air conditioners in 2025 and accounted for around 40 percent of global exports, according to data compiled by the Observatory of Economic Complexity, underscoring the country's dominance in the global supply chain.

Other Chinese-made cooling products — from fan-equipped sun hats to handheld fans and cooling blankets — have also gained immense popularity overseas.

According to *The Wall Street Journal*, Europeans are trying to stay cool, which is a boon for Chinese household-appliance makers such as Midea, Haier and Gree that have been trying to expand their global market share.

Geoffroy Boulard, the mayor of the 17th arrondissement of Paris, recently purchased 50 China-made air conditioners for local schools, where temperatures have been soaring. The temperature in one building exceeded 110 degree Fahrenheit (43.33 degrees Celsius), according to a video he posted on X recently.

According to CNBC, a website built by German software developer Adrian Kübel to track real-time inventory of Midea units across the country went viral on social media and showed the air conditioners were mostly sold out.

Around 20 percent of households in Europe have air conditioning, far below the nearly 90 percent penetration rate in the U.S., according to the International Energy Agency. That offers further opportunity for appliance makers, in particular those of portable units as the continent's politicians and regulators get bogged down in the debate over if and how to allow the installation of the bulkier wall-mounted units. This is a gap Midea and Asian home appliance



An engineer from the German R&D center of Midea demonstrates how to install the split air conditioner PortaSplit on July 2. (PHOTO: XINHUA)



Visitors tour the digital technology chain exhibition area at the China International Supply Chain Expo in Beijing on June 23, 2026. (PHOTO: XINHUA)

4

LIFE IN CHINA

China's Central Role in Addressing Global Challenges

Dialogue

By LONG Yun

When Stephen Jackson first visited China in 1993, the broad avenues in front of the Great Hall of the People in Beijing were full of black bicycles. Today, those same avenues are filled with black electric vehicles. The color may be the same; everything else has changed. "That's an extraordinary transformation which is unbelievable," he says.

Jackson, who took office as the United Nations Resident Coordinator in China on April 1, 2026, brings more than 30 years of experience in international development, peacebuilding and humanitarian affairs to the position. In conversation, he is warm, measured, and quietly thoughtful. He listens before he speaks.

An unconventional path

Jackson, who holds a bachelor's degree in mathematics from Trinity College Dublin, followed by a



Dr. Stephen Jackson. (COURTESY PHOTO)

master's in public affairs and a doctorate in cultural anthropology from Princeton University, wanted to work in artificial intelligence (AI) as a teenager. "But I was born too early," he says. "I grew up in what has now become known as the AI winter."

He studied mathematics with that ambition, but felt it was a dead end. Instead, he turned to anthropology, a discipline that allowed him "to think about what it is to be human and how human beings relate to one another rather than AIs."

This dual perspective has given him "a rather unusual way of looking at the world." He describes himself as "not an expert, but at least a qualified amateur" in AI discussions. When he hears terms like "large language model" or learns that AI models are doubling in density every three months, he says, "It kind of scares me as well as excites me."

His career has taken him to some of the world's most difficult places. At 25, he worked in Somalia; at 27, in Rwanda. He witnessed genocide firsthand, lost friends and colleagues, and heard sounds at night that he hopes never to hear again. "Psychologically, to be in the middle of that and to know actually how little you could do was very difficult."

Those years shaped him. From those experiences, he drew a lasting lesson: "There is something very distinct about being a human. I think to be human is a very precious thing."

A fascinating country at a fascinating moment

Before coming to China, people around him told him he was going to "a fascinating country at a fascinating moment." Now, having arrived, he agrees wholeheartedly. "This is the country that is amongst the world leaders, if not the world leader in AI now, and certainly in embodied intelligence."

He had followed China's technological rise from a distance. But seeing it in person "is a different matter." He saw a three-dimensional display rotating ancient artifacts, a robot performing reconstructive bone surgery, and video technology that turns a person's speech into a dragon, a spaceman, or an alien. He admits to feeling both astonishment and a sense that technology is changing so fast that it makes one wonder whether the world can keep up.

Jackson raises a fundamental question: "What does

it mean if we are creating AIs?"

Technology for global good

For him, the potential of AI to accelerate progress toward the UN's 17 Sustainable Development Goals is immense. "There isn't a single goal that can't be assisted through AI," he says, from eliminating poverty and hunger to combating climate change and promoting gender equality.

He points to concrete examples. AI is building better predictive models for agriculture as seasons become less predictable. After the recent earthquakes in Venezuela, China provided satellite imagery to the quake zones for disaster response operations. "Speaking as a former humanitarian aid worker, I think that is absolutely extraordinary." Yet Jackson is equally clear about the risks. AI can widen divides between countries and within them.

On global AI governance, he sees the UN as the essential platform for all 193 member states to discuss common challenges. And he sees China as a vital partner. China's commitment to finding the right balance between innovation, inclusion, sustainability, and safety, he says, is "very, very valuable."

What remains constant

Despite the breathtaking transformation he has witnessed, Jackson notes that some things have not changed. "The energy and determination of the Chinese people and their warmth," he observes, "those two things haven't changed." It is these qualities, he believes, that have transformed China and are now helping to transform the world.

His Chinese name, Jie Si Heng, reflects his vision: Jie means excellence, Si means reflection, Heng means balance. These three characters, he explains, are not only his name but also his vision for this role: to pursue balance through reflection, achieve excellence through cooperation, and work side by side with China for sustainable development at home and around the world.

To China's young innovators, he offers a final piece of advice: Read and think about what it means to be human, not just about what you can build in a lab. It is a message that reflects his own journey, from mathematics to anthropology, from AI to the enduring question of what it truly means to be human.

Tech+Culture

Digital Rejuvenation of Shanxi Murals

By Staff Reporters

Shanxi is a province renowned for its murals. It preserves over 25,000 square meters of ancient murals — the largest collection of temple and Taoist monastery murals in China — with many pieces being the only surviving examples of their kind nationwide.

However, as most of these murals are located in remote areas, their preservation status is precarious. "Digital scanning and archiving have become an urgent necessity," said Zhao Xin, executive deputy curator of the Shanxi Jinzhuyuan Mural Arts Museum.

Since 2009, with the support of the Shanxi Cultural Relics Bureau, the museum has assembled a professional digitization team and introduced China's first specialized mural scanning equipment to create permanent digital archives for these fragile artworks.

"Acquiring precise data without physically touching the artifacts is a major technical barrier," Zhao explained. The team employs infrared linear scanning technology combined with cold-light illumination, ensuring strictly non-contact scanning.

Before scanning, loose dust must be removed; team members use precision-controlled micro-blowers or suction bulbs tipped with soft cotton cloth to clean the mural surfaces inch by inch with millimeter-level accuracy. Throughout the process, they avoid touching the mural itself, ensuring the paint and base layers remain undisturbed.

Following the scan, the team utilizes post-processing techniques — such as high-precision image stitching, multi-spectral color correction, and texture mapping — to seamlessly merge thousands of partial images. The result is a digital archive with accurate colors, sharp lines, and clearly discernible details like cracks and mineral grain textures.

Over more than a decade of data collection, the team at the Shanxi Jinzhuyuan Mural Arts Museum has completed high-precision 2D and 3D digitization of murals at sites designated for national and provincial protection, as well as other significant cultural heritage sites. They have established a Shanxi cultural heritage big data center with a storage capacity of 1,000 terabytes (TB). The data for over 10,000 square meters of murals alone accounts for 200 TB — equivalent to the file size of 200,000 4K high-definition movies.

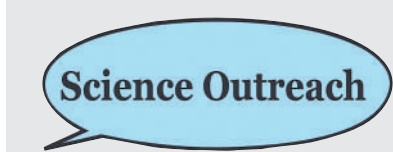
The museum has effectively created "digital doubles" of the murals that will never fade. Zhao added that even in the event of natural disasters or accidental damage, a complete digital counterpart of the original mural remains available, providing a solid foundation for the research, preservation, and revitalization of these cultural treasures.

At the 7th Shanxi Cultural Industries Fair last year, the "digital preservation and revitalization of murals" project by the museum was selected as a finalist case study of the integrated development of culture and technology in Shanxi.



A visitor takes a picture of the murals at the exhibition "Myriad Scenes on Walls: The Rich Life Sciences in Shanxi's Song and Jin Dynasties Murals" held at the Shanxi Museum in Taiyuan. (PHOTO: VOG)

Losing Weight? Don't Just Stare at Scale



By Staff Reporters

What matters most to you when you're trying to lose weight? Many people fixate on the number on the scales. However, behind that number may lie a more critical health issue: Are you actually losing fat, or precious muscle?

The aim of becoming slim should be to lose excess fat while preserving as much muscle as possible. Muscle is not only a source of strength and definition, but also the engine that maintains metabolism, supports joints and keeps you feeling energetic. If you lose too much muscle during weight loss, you may feel weak and tired, even though the number on the scales is going down. You will also be at a higher risk of regaining the weight later on.

In recent years, a new class of

drugs led by tirzepatide has gained popularity for suppressing appetite and promoting weight loss, earning the reputation of being miracle weight-loss drugs. However, as with any rapid weight-loss method, muscle is also reduced alongside fat. Studies have found that muscle loss can sometimes account for nearly one-third of the total weight lost through these drugs.

A healthy body requires a balance of fat and muscle. Whether or not you use medication, remember the three cornerstones of muscle preservation: Ensure you consume enough protein to provide the building blocks for muscle repair; incorporate regular strength training to signal to your muscles that they need to be retained; and avoid extreme dieting, as rapid weight loss almost always comes at the expense of muscle.

Scientific advancements are making weight loss more precise and healthier. Today, we can choose our methods wisely on the journey to the ideal weight and cherish our vital muscle mass.

Geometry of Piles: Duojishu

Traditional Eastern Wisdom

By BI Weizi

In ancient Chinese mathematics, the physical world served as the ultimate canvas for algebraic discovery. During the Song and Yuan Dynasties (10th-14th centuries CE), mathematicians revolutionized discrete mathematics through Duojishu (the Stacking Method).

Emerging in the 11th century, this discipline focused on the summation of finite series by calculating the total number of items — such as wine jars, spheres, or blocks — arranged in regular geometric piles.

Rather than relying on abstract,

axiomatic proofs, ancient scholars utilized spatial logic, counting board mechanics, and cosmological traditions to uncover profound algebraic truths.

The theoretical pinnacle of Duojishu is preserved in foundational texts like Shen Kuo's *Mengxi Bitan* (1088) and Zhu Shijie's *Siyuan Yujian* (1303). Shen solved intricate structural problems by deriving formulas for truncated rectangular pyramids.

Two centuries later, Zhu generalized high-order arithmetic progressions using binomial coefficients. He visually mapped these progressions using the *Guaiyuan Jiubian Tu* (Jia Xian's triangle, c.1050), which predated Pascal's Triangle by hundreds of years.

Through this geometric arrangement, Zhu proved that the sum of

triangular numbers yields a tetrahedral number, represented today as:

$$\sum_{r=1}^n \frac{r(r+1)}{2} = \frac{n(n+1)(n+2)}{6}$$

These sophisticated calculations were performed not with written equations, but with physical counting rods (suanchou) on a grid board. To prevent visual errors, digits alternated between horizontal and vertical configurations depending on their place value (units, tens, hundreds).

In Duojishu, polynomial coefficients were physically stacked in matrices on the board. Linear equations were arranged vertically in columns, and a blank space on the grid represented zero.

Sci-tech Development Goals Outlined

From page 1

Sci-tech innovation has provided strong support for China's rapid economic development and long-term social stability, laying a solid material and technological foundation for development during the 15th Five-Year Plan period.

Yin outlined five priorities for this period:

- Strengthening high-quality sci-tech supply to support high-quality development of the economy and society;
- Advancing deep integration of sci-tech innovation and industrial innovation to accelerate the development of a modernized industrial system;
- Improving regional innovation systems to foster new growth poles and sources of dynamism for high-quality development;
- Promoting integrated develop-

ment of education, science and technology and talent to better leverage their fundamental and strategic supporting role; and

- Enhancing international sci-tech exchange and cooperation to ensure that science and technology better benefit humanity.

He added that strategic, forward-looking and systematic planning of basic research needs to be strengthened. China should keep abreast of the frontiers of global science and technology, and strengthen original innovation from 0 to 1.

In response to urgent national development needs, efforts should also be made to identify the fundamental scientific questions underlying key technologies (i.e. from 1 to 0) and accelerate breakthroughs in the basic principles behind technologies that

face bottlenecks.

Talking about developing new quality productive forces in line with local conditions, Yin stressed the importance of preventing "involution-style" competition. Traditional industries, emerging industries and future industries are all crucial fields for developing new quality productive forces. Traditional industries should not be neglected or abandoned, nor should they engage in price-based competition. Instead, they should be revitalized through technological empowerment.

He added that emerging and future industries should not be developed through blind expansion, nor should there be a rush by all parties into the same fields, so as to prevent new bubbles and debt risks.

The Central Economic Work Conference last December proposed developing

international technological innovation centers in Beijing (the Beijing-Tianjin-Hebei region), Shanghai (Yangtze River Delta), and the Guangdong-Hong Kong-Macao Greater Bay Area.

This will expand Beijing's international tech innovation center to include the entire Beijing-Tianjin-Hebei region, and Shanghai's center will now cover the whole Yangtze River Delta.

In the next step, Yin said efforts will be made to enable the three international sci-tech innovation centers better serve as sources of original innovation, lead the development of high-end industries, and attract top talent, accelerating their development into key strategic pillars in building China's scientific and technological strength. Localities will also be supported to develop distinctive innovation hubs based on their strengths and conditions.