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Innovation Pathway

Xi Stresses Role of Sci-tech Innovation in Modernization

By Staff Reporters

Chinese President Xi Jinping, also general secretary of the Communist Party of China Central Committee, stressed self-reliance and strength in science and technology as the "key" in building China into a great modern socialist country.

Xi made the remarks when he visited a national information technology (IT) innovation park in Beijing on February 9.

He urged efforts to concentrate strength for major undertakings, pool all quality resources to secure breakthroughs, and move faster to tackle prominent weaknesses to achieve the country's strategic objectives.

At the park, Xi learned about IT application and innovation, and was briefed on Beijing's efforts to expedite the development of an international sci-tech innovation center. He checked the display of sci-tech innovation outcomes, and talked with researchers and heads of sci-tech enterprises.

Established in 2019, the national IT innovation park has emerged as a pivotal engine for transforming cutting-edge research into industrial reality.

Dedicated to advancing China's IT application innovation sector, the park is building a fully localized ecosystem of hardware and software infrastructure. Attracting leading enterprises, investment institutions, and academic partners, it is systematically cultivating a robust industrial chain, accelerating breakthroughs in core and common technologies, and facilitating the commercialization of innovative applications.

To date, it has welcomed over 1,000 companies spanning critical domains such as central processing units of computers, operating systems, supercomputing, cybersecurity services, and application software, creating a dynamic, competitive innovation landscape.

It is also integrating next-generation technologies such as AI, quantum information, 6G communications, and intelligent hardware into its industrial framework, fostering deep synergy between established innovation systems and emerging tech frontiers. This is strengthening foundational technological capabilities while enhancing cross-sector collaboration.

The park's initial 530,000-square-meter development zone is already producing significant scale effects and driving industrial momentum. An additional 1.17 million square meters of high-tech industrial space is set to come fully online this year, injecting new energy into the ongoing transformation of China's digital economy.



Robot dogs perform with a human lion dance team for the opening of the Spring Festival flower market in Shenzhen city, Guangdong province in South China on February 10. (PHOTO: VCG)

STI Frontier

Traffic Safety Test System Gets Smart

By LU Zijian & WANG Yuhan

Today, it takes only three days to test vehicles in dangerous scenarios that traditional testing needed half a year.

This is because of the creation of a 'limitless' testing environment for autonomous driving vehicles in a limited physical space by Zhao Xiangmo, president of Xi'an University of Architecture and Technology and professor at Chang'an University (CHU), and his team.

They have developed a traffic safety testing system integrating intelligent in-vehicle terminals, roadside sensing equipment, traffic cloud platforms and trusted testing toolchains for autonomous driving vehicles.

Testing vehicle braking system

The automobile industry gained explosive growth around 2007. At that

time, the equipment to test the anti-lock braking system (ABS) had to be mostly imported and only some vehicle parts were tested before assembly. The control effect of ABS for the entire vehicle could be checked only in a test field or on open roads through sampling.

Even field tests and open road tests were not safe enough. Besides, it is impossible to conduct these tests on every vehicle, according to Xu Zhigang, deputy director of the School of Information Engineering of CHU.

The question was how to test the real performance of ABS on each vehicle without disassembling the car by precisely simulating adhesion coefficients for different road surfaces and their combined operating conditions on the test bench.

The research team tried to improve

upon German technologies at first, but it didn't work, as they were designed based on European road conditions, which are different from Chinese ones.

After an in-depth survey for half a year, the team took another approach. They built a changeable road surface test bench in the lab by precisely integrating a magnetic powder clutch with a fly-wheel assembly.

This system can switch between various complex road conditions such as ice, snow and corrugated surfaces within 0.5 second, completing a full vehicle test in 20 minutes. It was a breakthrough in non-disassembly ABS testing on a test bench.

CT for road testing

Another key element is road safety, and bridges play an important part in this. See page 2

Tech Goods Highlighted in Spring Festival Market

Edited by WANG Xiaoxia

The Spring Festival, also known as Chinese New Year, is the country's most important traditional holiday, marking the peak season for consumer spending — driven by family reunions, travel, dining, entertainment and gift purchases.

This year spending has seen a big splurge on tech goods, with AI glasses, AI toys and other products that were once "niche and pioneering" now finding their way onto many consumers' festival shopping lists.

It highlights the diverse potential of China's consumer market, a result of the joint drive of policy support, consumption upgrade, technological iteration and

the evolution of the industrial chain.

At Huaqiangbei, the world's largest electronics market in Shenzhen, a Spring Festival shopping fair is in full swing. Sales of consumer electronics, smart devices and AI wearables have risen by around 30 percent compared to off-peak levels, according to a *Global Times* report.

"AI glasses with translation functions and AI toys that can accompany children are very popular," said a distributor at Huaqiangbei.

In January, multiple e-commerce platforms launched Spring Festival shopping campaigns. Data shows that the search volume for AI toys soared. For example, the number of searches for AI

toys on China's largest retailer JD.com, has increased by 125 percent year-on-year.

The consumption craze for tech goods is supported by government policies. In December 2025, the National Development and Reform Commission and the Ministry of Finance jointly issued large-scale equipment renewal and trade-in subsidy policies for consumer goods in 2026, with smart glasses now included on the subsidy list.

For individual consumers buying any mobile phone, tablet, PC, smart watch, and smart glasses priced at under 6,000 RMB, a government subsidy of 15 percent will be provided.

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International Cooperation

China's Technology Empowers Zimbabwe's Agriculture

Edited by WANG Xiaoxia

In Zindi, a mountainous village in Zimbabwe's Mashonaland Central province, rows of solar panels stand basking in the sunlight. In the farmland, the pump operates on solar energy, sending clear groundwater along pipes to irrigate the flourishing maize fields.

It's hard to imagine that just two years ago, this China-Zimbabwe agricultural cooperation demonstration village used to be a poor community plagued by water and electricity shortages.

"In the past, we were dependent on the weather for our livelihood," said village head Weveson Zindi. "During droughts, there was no hope of a good harvest."

The landlocked southern African country is prone to recurrent droughts and flooding, and has long been confronted with challenges such as weak agricultural infrastructure and lagging rural development.

In recent years, agricultural cooperation has deepened under the framework of the Forum on China-Africa Cooperation and the Belt and Road Initiative. The Zindi demonstration village project was implemented in 2024.

Chinese agricultural experts began with the most urgent issue: water supply. They drilled wells, installed solar-powered pumps and laid pipelines, building an irrigation system with a daily water supply capacity of 55,000 liters.

Zindi said with irrigation infrastructure improving, there are bumper harvests of crops such as maize and sweet potato in the once barren land. After the irrigation problem was solved, Chinese agricultural experts taught the villagers the use of organic fertilizers, gradually transforming the sandy plots into fertile fields for cultivation. They also helped build a professional agricultural machinery team by training local management and maintenance personnel.

The advanced techniques they introduced have significantly improved villagers' living conditions. Villagers have learned to grow different crops, such as chili peppers, okra and sesame seeds, and the sale of vegetables and poultry has increased their incomes.

Chinese experts have organized local villagers to form management teams, making crop planting, poultry breeding and maintenance of irrigation facilities more orderly.

WEEKLY REVIEW

Home-developed Antarctic Vehicle Travels over 10,000 km

On February 10, China's self-developed Snow Leopard 6x6 wheeled vehicle successfully completed extreme environment tests in the Antarctic interior, covering over 10,000 kilometers with no malfunctions. The vehicle was tested across five typical Antarctic interior terrain areas: sea ice, gravel, hard snow, solid ice, and soft snow.

Reusable Experimental Spacecraft Launched

On February 7, China successfully launched a reusable experimental spacecraft from the Jiuquan Satellite Launch Center in the northwest, using a Long March-2F carrier rocket. The experimental spacecraft will support the peaceful use of space by conducting technological verification for reusable spacecraft.

Optical Fibers Made from Low-loss Silicon Wafers

A team from the California Institute of Technology has recently found a way to guide light on silicon wafers with low signal loss approaching that of optical fiber at visible wavelengths. This will have a profound impact on a variety of on-chip applications, including precision measurements.

Micron-level 3D Printing with Both Rigidity & Flexibility

A research team from the University of Texas at Austin has developed a new 3D printing method that can produce objects with dramatically different properties, including levels of hardness and transparency, on a pixel-by-pixel basis while using commonly available materials and low-cost 3D printers.

New Graphic

By the end of 2025

China's Internet users

1.125 billion

The penetration rate

80.1%



Source: China Internet Network Information Center
Designed by SONG Ziyun / Science and Technology Daily

WECHAT ACCOUNT



E-PAPER

