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Innovation Fuels Private Sector Growth

By Staff Reporters

Xi Jinping, general secretary of the Communist Party of China Central Committee, stressed the role of private enterprises in advancing China's broader goals in terms of technological innovation, promoting rural vitalization and improving people's well-being at a symposium on private enterprises in Beijing on February 17.

His speech provided the direction for breaking new ground for the development of the private sector. The symposium sent the signal that the Chinese government is committed to high-quality development of the country's private sector, opening new imaginative space for its development.

As an important part of the national economy, the private sector is the main driver of startups and employment, and a key player in technological innovation. It contributes more than 50 percent of the tax revenue, 60 percent of the GDP, and 70 percent of technological innovation achievements. It also accounts for 80 percent of jobs and 90 percent of enterprises, laying a critical foundation for China's high-quality development.

Xi urged entrepreneurs to focus on high-quality development, invest in their main businesses, strengthen their capacities for innovation, and increase their core competitiveness.

Sci-tech innovation has become the key to realize high-quality development in the private sector. In recent years, China's private enterprises have demonstrated robust momentum in innovation.

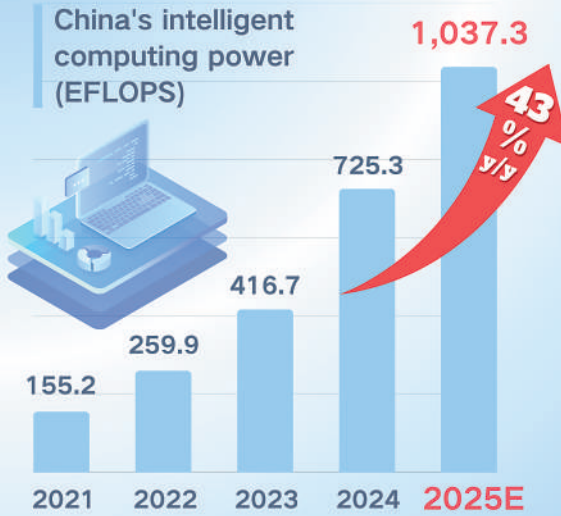
Notably, the emergence of DeepSeek has taken the international large language model industry by storm, while robots from Unitree Robotics were a major attraction at the Spring Festival Gala. There is now unprecedented public attention to the sci-tech innovation prospects of private enterprises and high expectations.

A new round of sci-tech revolutions and industrial transformations are bringing new opportunities for innovation and upgrade of private enterprises. On the one hand, there are major breakthroughs in sectors like AI, quantum technology and life sciences.

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New Graphic

China's Intelligent Computing Power to Maintain Rapid Growth



Source: International Data Corporation, Inspur
Designed by SONG Ziyao / Science and Technology Daily

WECHAT ACCOUNT



E-PAPER



The Chinese animated film *Ne Zha 2* has become the highest-grossing animated movie of all time globally. The photo shows a "Ne Zha"-themed wall painting in Shijiazhuang city, north China's Hebei province, February 19, 2025. (PHOTO: XINHUA)

Editor's Pick

'Ne Zha 2' Redefines Animated Movies

By LIANG Yilian, LIU Xia & TENG Jipu

The Chinese animated film *Ne Zha 2*, which made its debut during the Spring Festival, has captivated audiences with its stunning visuals and deep cultural themes. This popularity has seen the film's box office earnings, including pre-sales, surpass 12 billion RMB, making it the first Asian film to enter the global box office top 10.

During production, Chengdu Kekedou Animation Film and Television Co., Ltd. played a crucial role in special effects, voice acting, and other aspects of development. "We spent five years making *Ne Zha 2*," said Liu Wenzhang, the film's producer and CEO of Kekedou Animation, emphasizing the major advancements in visual effects.

A visual feast of myth and fantasy
In *Ne Zha 2*, audiences are immersed in a breathtaking fantasy world

where molten lava cascades from the sky and thousands of humans and monsters descend in battle. These stunning sequences are the result of collaboration among 138 animation production companies across China.

Technologically, the film marks a major leap forward. The total number of shots increased from 1,800 in the first film to over 2,400, with special effects making up 80 percent of the entire film's shot count. In some of the most intricate scenes, the number of characters depicted within a single frame can reach up to 200 million.

"To achieve this effect, we used advanced computer graphics technology and algorithms, constantly breaking new ground in areas like fluid dynamics and particle effects, enhancing the dynamism and realism of the scenes," said Liu.

Moreover, in the iconic Dragon Palace of the Four Seas scene, the team

combined particle systems with biomechanics. Ao Bing, the dragon prince, features individual light-reflecting scales that simulate biological elasticity, creating an unprecedented level of detail.

Blending technology with traditional aesthetics

Ne Zha 2 also integrates particle effects with traditional Chinese aesthetics. Instead of adopting the rigid, mechanical style common in western animation, the team drew inspiration from the ancient Dunhuang Flying Apsaras murals. *Ne Zha*'s legendary "Three Heads and Six Arms" ability is depicted through flowing, dissipating particle effects, creating an ethereal, dreamlike quality.

"This approach is a digital translation of the Chinese artistic principle of 'leaving space,' marking the rise of a distinct visual language for domestic animation," said Liu.

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AI Diagnosis Model Facilitates Industry Upgrade

AI Ripples

By Staff Reporters

Although launched less than a year ago, China's first AI large model for the diagnosis, operation and maintenance of industrial equipment has already been widely adopted in the coal, chemical and power industries.

Developed by CHN Energy Digital Inteltech, the large model has built a comprehensive and smart knowledge base with the function of AI expert consulting. Equipment operation and maintenance personnel can diagnose faults and learn maintenance methods by doing

Q&A with the large model based on the real faults the equipment encounters.

"The development of the coal industry highly depends on all kinds of mechanical equipment; thus stable, reliable and smart systems for the operation and maintenance of industrial equipment are indispensable," Guan Feng, product R&D technology manager at Digital Inteltech R&D Center, said.

During the research phase, the company identified several sore points. One of them came from the workers at the frontline of the coal industry. They said daily operation and maintenance work was difficult because there were numerous equipment models and types and the equipment mechanism and structure were complicated, which made digital

transformation hard to achieve.

Another was that the mature models for equipment diagnosis abroad are mostly small ones that cannot comprehend the technical language of industrial equipment, resulting in high operation and maintenance costs and low efficiency. Domestic models were still in the early stage of technological innovation.

The large model solved the dilemma of low efficiency and high costs. It is like an "intelligent hospital" for industrial equipment, as it can give accurate diagnoses and provide targeted "prescriptions" by offering professional maintenance decisions, according to Duan Wei, deputy director of the Lijiahao Coal Mine, owned by CHN ENERGY Baotou Energy Co., Ltd.

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Chinese Housing Project Benefits Thousands in Ecuador

International Cooperation

By Staff Reporters

The "Dream of Guayaquil," an affordable housing project designed and built by the Sumec Group — a subsidiary of China National Machinery Industry Corp — was officially handed over on February 4. The ceremony took place in Guayaquil, Ecuador's largest city, with Ecuadorian President Daniel Noboa and other key officials in attendance.

The development features 668 housing units, as well as amenities including children's activity centers, community spaces and retail shops, serving over 3,000 residents.

"Today, we are not just delivering 668 homes, but fulfilling the housing dreams of 668 families in Guayaquil. We thank the builders for making this possible," Noboa said.

Ecuador remains one of the less economically developed nations in South America. Seven years ago, the housing rate for low-income families stood at just 53 percent, making the housing crisis a pressing issue. As Ecuador's largest city, with a population of around two million, Guayaquil is home to the nation's busiest port.

To address the growing housing need, Ecuador's government launched a national affordable housing program in 2018. The "Dream of Guayaquil" project began in May 2021 and was completed in December 2024.

Since the introduction of the Belt and Road Initiative, numerous Chinese enterprises have accelerated their efforts to expand abroad, promoting the implementation of a series of "small but beautiful" projects. These projects have improved local livelihoods and become a key force in advancing the initiative. The delivery of Ecuador's public housing project fulfills the long-held aspiration of local residents to have a home of their own.

WEEKLY REVIEW

Nickelate High-Temperature Superconductors Developed

In a breakthrough in superconductivity research, a team from the Southern University of Science and Technology in Shenzhen, south China, in collaboration with other Chinese institutions, has developed a new type of high-temperature superconductor from nickelate, a compound of nickel, at ambient pressure. The findings were published in *Nature*.

Origin Wukong Gets Over 20 Mln. Remote Visits

On February 14, Origin Wukong, China's independently developed third-generation superconducting quantum computer, received more than 20 million remote visits from users around the world, passing an important milestone in the country's quantum computing development.

"Dual-Loop" Brain-Computer Interface System Created

Tianjin University and Tsinghua University have jointly developed a "dual-loop" brain-computer interface system. This system has higher precision and lower energy consumption, and can handle more complex tasks.

World's Largest Digital Microbe Collection Assembled

Researchers at the University of Galway, Ireland, have created APOLLO, the world's largest collection of digital microbes — nearly a quarter million computer models — to help revolutionize our understanding of the human microbiome and its impact on health.

Two Arrows of Time from Quantum Realm Found

A recent study, published in *Scientific Reports*, explores how a quantum system interacts with its environment, known as an "open quantum system." University of Surrey researchers investigated why we perceive time as moving in one direction, and whether this perception emerges from open quantum mechanics.

Elon Musk's xAI Launches Grok 3

Elon Musk's AI company, xAI, late on Monday released its latest flagship AI model, Grok 3, and unveiled new capabilities for the Grok iOS and web apps. This AI model, according to Musk, is going to be "scary smart."