# Context Innovation to Turn Sci-tech Breakthroughs into Application

**Policy Express**

By Staff Reporters

China has issued a guideline to accelerate the development of application contexts for new technologies and products, marking a strategic step toward fostering new quality productive forces and high-quality development.

The guideline, released by the General Office of the State Council, defines "contexts" as real- world settings that validate the industrial use of new technologies, products, business models and supporting policies, serving as a bridge between R&D and the market.

"This is the first time China has made a systematic deployment of context cultivation and opening at the national level," said Li Chunlin, deputy head of the National Development and Reform Commission, at a State Council policy briefing on November 10.

He said the goal is to leverage China's super-large market and rich application contexts to create an "experimental field" for innovation, an "accelerator" for emerging industries, and a "touchstone" for institutional reform.

Contexts, he added, have become a key innovation resource, integrating technological advancement, industrial transformation, and systemic reform. The guideline outlines clear pathways and innovative policy measures to enable broad participation and drive deep integration of science and industry.

A robot is displayed at the exhibition area of the 2025 Global Industrial Internet Conference in Shenyang, northeast China's Liaoning province. (PHOTO: XINHUA)

Zhu Zhihua, an expert from the Beijing Great Wall Enterprise Strategic Research Institute, told *Science and Technology Daily*, "This is the first time China has holistically mapped out socio- economic application contexts at the national level. It provides a practical roadmap for governments, enterprises, and institutions across all sectors."

The plan identifies 22 priority areas under five directions — AI, digital economy, smart manufacturing, social governance, and daily- life services — and calls for three types of contexts: comprehensive mega-contexts, sector-integrated contexts and high- value niche contexts targeting specific challenges.

Chen Hongsheng, an official from the Ministry of Science and Technology, described contexts as a "training ground" for turning scientific breakthroughs into real-world impact.

"Large- scale context application not only validates technology but also guides R&D priorities," he said, describing a rapid innovation cycle: demand-driven R&D, technological breakthrough and industrial application.

Yao Jun, director- general of the Ministry of Industry and Information Technology's Planning Department, announced an upcoming "AI + Manufacturing" action plan to embed AI across the entire manufacturing lifecycle — from design to operations to amplify its "multiplier effect."

According to Gui Gang, an official from the State- owned Assets Supervision and Administration Commission, central enterprises have already built over 800 AI- related contexts and opened 190 pilot platforms offering more than 400 services to external partners.

"We welcome private firms, SMEs, and research institutes to co- develop contexts with central enterprises," he said.

With coordinated implementation across ministries and regions, China aims to transform its contextual advantage into a powerful engine for innovation-led, high-quality economic growth.

# Guidelines to Boost 'AI+' in Healthcare and Medical Services

By LIN Yuchen

A new strategic initiative designs the integration of AI into the healthcare sector to enhance the quality and efficiency of healthcare services while ensuring safety and accessibility for the public.

The recently released document on promoting and regulating the application of AI + in healthcare and medical services aligns with the broader goals set forth by the Chinese government in the national AI development plans.

The policy sets an ambitious roadmap with key objectives for the years 2027 and 2030.

By 2027, China plans to establish comprehensive healthcare data sets and trusted data spaces, alongside the creation of specialized AI models for clinical diagnostics and treatment decisions. Widespread implementation of AI will be targeted across primary care, specialized clinical decision- making, and patient services, marking a significant leap toward fully integrated, AI-driven healthcare services.

By 2030, AI technologies are expected to be fully embedded in medical imaging, diagnostic tools, decision support systems, and patient care, ensuring that secondary and tertiary hospitals across China adopt these innovations.

A primary focus of the policy is the enhancement of AI applications in primary healthcare. These include improving diagnostic accuracy in medical imaging and laboratory diagnostics, alongside the development of AI systems for chronic disease management and personal health monitoring.

AI tools will also be used to improve the quality and efficiency of public health services, such as routine screenings and health management for vulnerable populations. Through these initiatives, the policy aims to bridge gaps in healthcare access, particularly in rural and underserved areas, where AI can support more efficient delivery of care.

In clinical settings, the policy encourages the use of AI in medical imaging and decision support systems, particularly in specialized areas such as oncology, pediatrics, and mental health. AI applications will aid healthcare professionals in diagnosing complex conditions and managing rare diseases, significantly improving the quality of clinical decision- making and patient outcomes.

The policy also outlines the expansion of AI-driven rehabilitation and personalized treatment options, reflecting a comprehensive approach to patient care across various stages of illness and recovery.

Another key aspect of the policy is the integration of AI with traditional Chinese medicine (TCM). The initiative proposes the development of AI tools that will assist in TCM diagnostics and treatment planning, leveraging vast repositories of historical data and clinical research to enhance the personalization of care based on TCM principles.

To support these efforts, the policy emphasizes the need for robust infrastructure and data- sharing mechanisms. It calls for the construction of a national health information platform that will allow seamless data exchange across public and private healthcare institutions. This platform will serve as the backbone for AI-driven applications, ensuring that medical professionals have access to the most up- to- date and comprehensive patient information.

Additionally, the policy advocates for the development of more powerful AI algorithms and computing capabilities, which are critical for the widespread deployment of AI applications in the healthcare sector.

Data security and privacy are paramount in the policy's design. To protect patient information and maintain public trust, comprehensive guidelines have been drafted for the secure use of healthcare data. Oversight mechanisms have also been introduced to monitor the ethical and legal use of AI technologies, ensuring that they comply with the national and international standards for data protection and privacy.

Through this initiative, China aims not only to advance the domestic healthcare system but also to position itself as a global leader in AI- driven healthcare innovation. The integration of AI technologies will facilitate more efficient, accurate, and equitable healthcare delivery, while also fostering growth in the broader health technology sector.

# New Quality Productive Forces Rely on Innovation

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The number of high- value invention patents per 10,000 people reached a new record of 15.3, surpassing all expectations.

"The past five years have seen China move from isolated breakthroughs to comprehensive advances," said Chu Junhao, CAS academician. "The next step is to progress from 'good' to 'excellent.'"

The Recommendations also call for improving the new system for mobilizing resources nationwide, and adopt unconventional measures to drive decisive breakthroughs in core technologies across entire chains in key fields, such as integrated circuits, industrial machine tools, high- end equipment, basic software, advanced materials, and biomanufacturing.

Peng Shou, academician of the Chinese Academy of Engineering (CAE), emphasized strengthening enterprises' principal role in innovation and building a market-oriented system integrating industry, academia, research and application. Wu Hequan, also a CAE academician, highlighted the need to improve data infrastructure and governance to support breakthroughs in software and artificial intelligence.

"Innovation is ultimately about people," added Chu Junhao. "We must remove constraints that limit creativity and stimulate scientists' full potential."

***Deepening integration***

At the third China Postdoctoral Innovation & Entrepreneurship Competition in late October, a team from Dalian University of Technology reported that its femtosecond laser processing technology had matched enterprise demand through the event's platform, and secured a one- million- RMB investment within five months — a prime example of innovation-industry linkage.

In addition, the Recommendations proposes "promoting full integration between technological and industrial innovation." Ye Qizhen, CAE academician, said combining innovation with application is vital for economic growth and better livelihoods. Nuclear technology, for example, has entered everyday life — from power generation to medical use and heating, according to Ye.

Zhao Yuliang, CAS academician, noted that such integration is the bridge linking a "strong science sector" with a "strong economy." Since the 14th Five-Year Plan, China's technology transfer and commercialization have surged, with national technology transaction value reaching 6.8 trillion RMB in 2024.

Looking ahead, Zhao suggested creating joint R&D consortia between enterprises, universities and research institutes. "Enterprises provide funding and real- world problems, while universities contribute equipment and talent. The two parties can jointly conduct pilot and mid-scale R&D to advance the commercialization of scientific and technological achievements," he said. "This approach helps solve bottleneck technologies and cultivates talent for deep integration of scientific and industrial innovation."

**Case Study**

# Xinjiang: Innovation Bridges Heritage, Progress

By Staff Reporters

Across the Xinjiang Uygur autonomous region in northwest China, a compelling narrative of development has been unfolding, seamlessly weaving technological advancements with deep-rooted traditions.

Spanning smart manufacturing plants and ancient- style dwellings, and bustling cities and revitalized villages, the region is experiencing dynamic growth. At the heart of this transformation lies innovation.

***Agricultural progress against environmental odds***

Despite its predominantly arid and semi- arid landscape and water scarcity, Xinjiang has achieved remarkable agricultural breakthroughs, defying environmental odds.

This year, Xinjiang's summer grain crops yielded 411.5 kg per mu, exceeding the national average of 375.6 kg per mu, earning it the title of the country's top region for yield growth.

Central to this success is advanced seed science. At the forefront of this effort is Join Hope Seed Co., Ltd. in Changji city in north Xinjiang, where researchers are producing improved seed breeds. "Historically, developing a high-performing seed variety typically took eight to 10 years," Join Hope's Chair She Gang said.

Today, investment in research and development has refined and accelerated the breeding process. Join Hope has developed over 300 high- yield varieties, many of which are sown in Xinjiang's key grain- producing areas. The authorities have contributed to this progress by establishing innovation platforms and technological support services to strengthen the sector.

***Innovation goes beyond agriculture***

Xinjiang's innovation drive extends beyond agriculture, taking advanced technology to other sectors. Urumqi-based Yinduolan Uighur Medicine Co. exemplifies this transformation. The enterprise has fully automated its packaging line, which has dramatically increased its production efficiency. The automated control system for processing herbal extracts, a pioneering measure, has slashed the production cycle time by 30 percent, energy consumption by 35 percent, and improved extraction yields by 10-20 percent.

TBEA Co., also in Changji, is another company that has undergone technological transformation. From a small factory that nearly went bankrupt in 1998, the company has grown into a major industry player with reported total assets of 207.6 billion RMB in 2024.

Huang Hanjie, CEO of TBEA, attributes the transformation to a significant industry player today primarily to innovation.

A prime example of this is TBEA's digital dry transformer production workshop. It became operational in January 2024 and since then, production capacity has risen by 40 percent.

***Surge in tourism***

Xinjiang's rich cultural heritage and natural beauty are attracting a growing number of domestic as well as international visitors, bolstered by focused development initiatives.

The popular TV drama *My Altay* put the Altay region, which has a rich ice and snow culture, on the tourism map.

The local master craftsmen are also contributing to it with their unique art. Sulanbek Shahesh, in his 70s, is an inheritor of the intangible cultural heritage of fur ski making. His workshop promotes the region's winter culture, making traditional fur skis.

The Jiangjunshan Mountain Int'l Ski Resort attracted nearly 550,000 visits during the 2024- 2025 season, with revenues exceeding 65 million RMB, reflecting over 20 percent year- on- year growth.

An aerial drone photo shows tourists visiting the Sayram Lake scenic area in northwest China's Xinjiang Uygur autonomous region. (PHOTO: XINHUA)

# Brand-new Technology Better Serves Events and Lives

*From page 1*

Walker S2 is 176 centimeters tall and weighs 70 kilograms. Its body has 52 degrees of flexibility and uses the world's first hot- swappable autonomous battery replacement system for humanoid robots. This enables autonomous battery replacement in just three minutes, and is also equipped with the self-developed co-agent technology, the world's first intelligent agent specifically designed for the body of industrial humanoid robots.

In addition to the groundbreaking opening ceremony, Walker S2 is participating in multiple core functions of the Games. It is on duty in various locations such as the competition sites, the main operations center, the event operation command center, and the main media center to provide intelligent services, promoting the principle of "technology serving events."

***Renovations for Games & daily life***

The stadium has an area of 654,600 square meters, capable of accommodating approximately 75,000 people. Its eye-catching ribbon- like roof conveys a sense of "floating and flying gracefully."

To convey this impression, the designing team from the Chinese Academy of Engineering showed bold innovation. While maintaining the basic shape of the roof, they creatively added a PTFE suspended membrane design, covering a large area of exposed steel structures to optimize the visual effect. Modern floodlight projection technology was harnessed to create diverse and dynamic light and shadow effects on the roof, forming a brand-new "ribbon".

This "flowing ribbon" effect has not only enhanced the aesthetic appeal but also added more functionality to the roof. During events, by integrating projection technology, the venue transforms into a performance space that is both visually appealing and interactive, enhancing the atmosphere.

There are many more renovations inside the venue. The entrance passage is a slightly inclined ramp, adhering to the design concept of being friendly to people of all ages. When the Games concludes, people can come here to exercise, making the venue blend into the daily life of people.