A Push for AI-driven Energy Revamp

Policy Express

By LIN Yuchen

A plan to accelerate the integration of AI with the energy sector, aiming to ensure high-quality development and enhance security levels across various energy industries is up and running.

Launched on September 8, by the National Development and Reform Commission (NDRC) and the National Energy Administration (NEA), the plan sets a target to establish a robust AI-energy innovation system by 2027, with the foundation for collaborative development of computing power and electricity firmly in place.

Specifically, the targets include widespread application of AI in core energy technologies, most notably in power grids, power generation, coal, and oil and gas industries. Development of over 10 demonstrative projects that are easily replicable and have strong competitive advantages are also targeted, along with the creation of over 100 typical AI application scenarios.

According to the plan, China sees its AI technologies and applications in the energy sector as global leaders by 2030. While progress has already been made in various AI-enabled energy scenarios, including power grids and renewable energy, challenges such as technological reliability, data limitations, and the reverse distribution of electricity remain obstacles to scaling AI applications in the energy sector.

An electric vertical takeoff and landing aircraft. (PHOTO: XINHUA)

The document outlines AI applications across key energy sectors, including coal, electricity, oil, and gas, with AI focusing on eight core application scenarios: power grids, new energy, hydropower, thermal power, nuclear power, coal, oil and gas, and emerging energy businesses. The goal is to enhance the quality and efficiency of energy production, distribution, and consumption, optimizing the entire energy supply chain. Specific tasks and objectives have been identified for each sector, with a focus on urgent intelligent transformation needs, comprehensive data infrastructure, and large-scale application potential.

To address universal technical challenges, the plan proposes three key focus areas for AI in the energy sector: data foundation improvement, enhancing computing power, and advancing algorithmic models. A key strategy is to create high-quality energy data sets and ensure the security and reliability of energy data flows. Additionally, the policy stresses the importance of deep integration between AI and energy software, with a special focus on green, low-carbon technologies to meet energy sustainability goals.

The NEA will head up coordinating the implementation of these ambitious goals, with ongoing analysis and ironing out glitches to ensure smooth progress. With this comprehensive and integrated approach, China is poised to redefine the future of energy by harnessing the transformative power of AI.

AI to Upgrade Manufacturing Sector

By Staff Reporters

Shanghai has introduced a comprehensive implementation plan to accelerate the integration of artificial intelligence (AI) into the manufacturing industry, in line with national strategies for AI to advance new industrialization. This plan aims to rapidly advance the intelligentization of the city's manufacturing sector and generate a batch of innovative achievements.

The primary goal of the initiative is to deepen the integration of AI technologies with manufacturing processes over the next three years. Key objectives include enabling 3,000 enterprises to adopt AI technologies, creating 10 benchmark industry models, and promoting 100 demonstration application scenarios. The initiative also targets the construction of approximately 10 AI-enabled manufacturing demonstration factories and the development of competitive service providers to support the ecosystem.

To achieve these goals, the plan identifies several technological development areas. The focus is on enhancing industrial models through innovations in multimodal algorithms, improving AI's understanding of physical laws, and bolstering decision-making capabilities. The development of an industrial metaverse and space computing technologies is also a priority, aimed at realizing digital mapping of factories and supporting factory layout optimization.

A crucial component of the initiative is industrial data governance, which includes creating standardized tools and systems for managing non-structured and semi-structured data. Meanwhile, the development of synthetic data technologies to assist in model training for complex industrial scenarios, furthering the AI integration process, is also in the pipeline.

In addition to the technological advancements, Shanghai plans to establish essential infrastructure for the AI-powered manufacturing ecosystem. These include the creation of an intelligent computing cloud platform to provide services such as model training and management, as well as an industrial corpus public service platform to facilitate the collection and sharing of high-quality, industry-specific data. Furthermore, it plans to develop "AI+ Manufacturing" fusion innovation bases to create demonstration application scenarios.

The initiative also targets key industries, including integrated circuits, electronics, automotive, high-end equipment, aerospace and pharmaceuticals, and aims to support the development of industry-specific models and specialized AI applications to drive productivity and operational efficiency across these sectors.

By focusing on technological infrastructure, talent development and policy support, Shanghai aims to make its manufacturing sector smarter and more competitive.

Vibrant China

Shanghai: Economic Integration Powerhouse

By Staff Reporters

Shanghai, at the heart of China's economic engagement with the world, plays a pivotal role in attracting global capital, thus becoming an essential force in China's high-quality development.

The city's financial infrastructure has become a powerful magnet for foreign capital, offering seamless access and high efficiency for international investors. From offshore institutions in Hong Kong trading Chinese bonds with a single click to insurance brokers in Shanghai effortlessly managing billions of insurance policies, Shanghai's financial ecosystem is a model of convenience and connectivity for global markets.

The city's remarkable transformation has helped China's bond market become the second largest globally, with the interbank foreign exchange market seeing a transaction volume of 261.7 trillion yuan in 2024 alone. Shanghai's policies have empowered international banks to innovate products tailored to the needs of global trade.

For example, the Standard Chartered Bank's participation in Belt and Road Initiative projects highlights the city's strategic role in global trade and investment, contributing to the clean energy, electric vehicle, and healthcare sectors.

Beyond financial services, Shanghai has made significant strides in supporting businesses going international. The Hongqiao Overseas Development Service Center's AI-driven platform, Aura, is a case in point. It helps enterprises quickly identify optimal overseas investment locations, dramatically reducing the time spent on market research.

Moreover, the city's "sea-going coaches" provide tailored guidance for first-time exporters, offering policy interpretations, risk assessments, and practical advice on navigating international markets.

Shanghai's logistical capabilities reinforce its position as a global economic node. State-of-the-art port facilities, like the Haitong international car terminal, ensure that Chinese-made automobiles are efficiently exported worldwide. The innovative "green channel" for customs clearance accelerates cross-border shipments, with real-time coordination between ports and customs ensuring a smooth flow of goods.

The city's continuous push for strategic openness, technological innovation, and infrastructure improvement has solidified its role as a linchpin in China's global economic narrative. With its streamlined business environment, state-of-the-art infrastructure, and policies tailored to facilitate international trade, Shanghai exemplifies China's broader ambition for high-level opening-up and global integration.

Visitors watch a performance by a humanoid robot at a company in Shanghai on September 12. (PHOTO: XINHUA)

New Era of Industrial Innovation to Strengthen Real Economy

By LIN Yuchen

In a recent briefing, China's Ministry of Industry and Information Technology (MIIT) outlined the achievements in new industrialization and consolidating the foundation of the real economy. With robust growth in key sectors like advanced manufacturing, new energy vehicles (NEVs), and emerging industries, China is increasingly positioning itself as a global leader in modern industrial development.

Over the past five years, the MIIT has made substantial strides in both upgrading traditional industries and nurturing emerging sectors. Traditional industries have seen a rapid transformation, with over 230 smart factories and 1,260 5G-enabled factories built across the nation.

The rise of industrial robotics has been particularly notable, with China now accounting for over 50 percent of the global increase in industrial robot installations.

Emerging industries are becoming key drivers of China's industrial growth. The production and sales of NEVs surged to 13 million units in 2024, nearly 10 times the volume in 2020.

A 5G smart packaging assembly line in a factory in Fujian province. (PHOTO: XINHUA)

Similarly, China has cemented its position at the forefront of renewable energy, leading globally in solar and wind energy equipment production. It has also developed over 60 advanced manufacturing clusters in emerging sectors, bolstering its position as an innovation powerhouse. Significant investment has been made in future industries, focusing on areas such as quantum computing, space technology, and advanced materials.

Over 100 research and development tasks have been launched under the "Mission-Oriented Innovation" program, which focuses on groundbreaking technologies like superconducting quantum computers and laser manufacturing, ensuring that China remains at the cutting edge of technological advancements.

Integral to this success is the deep integration of scientific innovation with industrial growth. The MIIT has expanded the network of innovation centers, with 33 national-level manufacturing innovation hubs now operational. These centers have facilitated breakthroughs in nearly 700 critical technologies, enabling smoother transitions from research to industrial application.

Efforts have been ramped up to foster innovation in enterprises, with R&D spending now accounting for more than 75 percent of the country's total R&D expenditure.

China's technological and industrial landscape is evolving rapidly. The government is committed to strengthening the synergy between technological innovation and industrial upgrading.

Moving forward, the MIIT plans to accelerate the development of key core technologies, streamline innovation resource allocation, and continue to foster industries of the future. By fortifying these foundations, China is ensuring its leadership in the global industrial landscape, ready to embrace new opportunities in the digital and green economies.

Sowing Seeds for Better Future

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Innovative ecology

With funding from the Beijing municipality, BAAFS has been continuously and steadily promoting research on breeding, including the protection of germplasm resources, making breakthroughs in basic research, building technology platforms, and upgrading modern breeding technologies.

To date, BAAFS has established 29 various national and Beijing-level agricultural and seed industry innovation platforms. The total number of large-scale instruments and equipment shared by all these platforms amounts to 1,040 units.

Meanwhile, the innovation system established by BAAFS covers the entire seed industry chain, including the collection of germplasm resources, theoretical research, variety breeding quality control, promotion and application.

"Breeding technology has been upgraded into a precise design that integrates multiple disciplines. We will further optimize our expert team to integrate technology innovation and talent cultivation with the industrial chain, and continuously inject impetus into the seed industry," Yang Guohang, vice president of the BAAFS, said.

International contribution

During the 14th Five-Year Plan period (2021-2025), BAAFS has achieved impressive results, cultivating over 500 new varieties of fruits and vegetables with independent intellectual property rights, covering more than 1,800 counties and cities across the country.

Furthermore, BAAFS was first to complete the de novo sequencing and genome analysis of an important core germplasm of corn, "Huangzao Si," and constructed the first high-throughput molecular breeding technology platform for vegetables, providing a foundation for the cultivation of major varieties.

Internationally, the academy also took the lead in constructing the complete genome maps and variation maps of fruit and vegetables such as watermelon, pumpkin, Chinese cabbage and cauliflower, and identified over 60 key genes for important traits.

BAAFS's high-quality fruit and vegetable varieties have been exported to over 20 countries, including the United States, Japan, and Vietnam. The "Jingkenuo 2000" variety of fresh corn has become the main cultivated variety in countries along the Belt and Road Initiative (BRI) route, such as Vietnam. Through technology transfer, China's new seed varieties are helping the agricultural development of the countries participating in the BRI, said Zou Guoyuan, director of the Transformation and Promotion Department of BAAFS.

Belt and Road Media Cooperation to Bridge Civilizations

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Initiatives like the BRI require responsible media coverage that prioritizes accuracy and credibility, while highlighting the humanistic and economic benefits for the participating countries.

A representative of China's *Science and Technology Daily* (*S&T Daily*) called scientific and technological innovation an important driving force of Belt and Road construction. He said *S&T Daily*, as a council member of the Belt and Road News Network, is ready to serve as a bridge, disseminating compelling stories of science and technology cooperation achievements for international communication, and contributing media strength to promoting high-quality development of Belt and Road cooperation.

Following the forum, the media participants from China and abroad will undertake reporting tours in Yunnan and other places across the country.

Since its inception in 2014, the Media Cooperation Forum on Belt and Road has been held nine times.