

China's Futuristic 5-year Urban Revamp Plan

Policy Express

By YAO Yian

China's State Council recently issued an urban renewal plan during the 15th Five-Year Plan (2026-2030) period, outlining core targets, major tasks and supporting policies.

The plan envisages substantial progress in urban renewal by 2030 across various areas: transforming urban development and construction methods, strengthening the foundation for safe development, improving service efficiency and enhancing the living environment. In addition, it also aims to accelerate the transition between old and new growth drivers, protect cultural heritage, highlight urban features and characteristics, and boost governance capacity. Ultimately, cities will become high-quality living spaces for all residents.

The plan aligns with the goal of building a modern people-centered city that is innovative, livable, beautiful, resilient, civilized and smart. It outlines six key tasks: fostering and expanding new growth drivers for urban development, creating high-quality urban living spaces, promoting the green and low-carbon transformation of urban development, enhancing urban safety and resilience, boosting the prosperity and development of urban culture, and improving urban governance capacity.

The plan also proposes seven policy measures: improving the implementation mechanism for urban renewal, es-



The cityscape of Qingdao West Coast New Area in Shandong province. (PHOTO: XINHUA)

establishing a sustainable investment and financing system for urban construction and operation, increasing support for revitalizing stock land, setting up a safety management system for the whole life cycle of buildings, building a multi-stakeholder collaborative participation mechanism, improving the system of laws, regulations and standards, and strengthening the supporting role of science, technology and talents.

Meanwhile, the plan clarifies 14 major projects and initiatives, including the construction and renovation of "good housing," the expansion and quality improvement of complete community construction, the renovation and upgrading of old neighborhoods and industrial zones, and the upgrading of municipal infrastructure.

equipment, with a focus on automated construction machinery, construction robots and integrated construction operation platforms.

To advance the green and low-carbon transformation of urban development, the plan supports transforming and upgrading high-energy-consuming public buildings, scaling up green building development and establishing a building energy efficiency rating system. Green design and construction practices will be widely promoted across the industry.

Promoting green and low-carbon lifestyles is included in the plan, through advancing urban water conservation, building sponge cities, and deepening the development of climate-resilient cities. Construction will also be stepped up of facilities for the utilization and disposal of construction waste. The plan advocates green and low-carbon travel as well, calling for optimizing public transport networks and station layouts, and developing an urban green slow-traffic system.

To ensure safety, an "AI plus Security" enhancement project is expected, which aims to boost risk prevention and control capabilities.

In addition, raising the level of opening-up and cooperation of cities is vital. The plan supports cities with the necessary conditions to host major foreign affairs and diplomatic events, attract influential international organizations to establish their presence, and develop a number of international gateway hub cities and regional opening-up node cities.



make data sharing secure, delivering high-quality data support for training and evaluating AI algorithms.

It promotes in-depth application of metrology technologies across 14 key sectors including smart manufacturing, smart healthcare and smart transportation. Research will be conducted on key indicators such as the reliability of AI diagnostic algorithms to solve quality assessment problems amid industrial digital transformation, and strengthen people's sense of security and satisfaction with AI applications. The focus is on empowering all industries to deliver greater benefits to the public via the smart economy.

The SAMR said it will build a number of R&D and application centers for AI metrology technologies in the next step. Pilot projects will be launched in priority areas such as smart supervision and smart healthcare to develop replicable and scalable application scenarios of "AI + metrology."



economic returns of individual projects, and also elevates the investment efficiency of public power grid assets.

Notably, the policy offers strong support to two categories of new energy projects: those yet to start grid connection construction, and those failing to connect to the grid due to insufficient local consumption capacity. After completing required alteration procedures, these projects can shift to the multi-user green power direct connection model.

In addition, distributed photovoltaic power generation can be incorporated into the multi-user green power direct connection system, via centralized power convergence. Priority policy support will be granted to emerging and future industries such as computing power infrastructure, green hydrogen, ammonia and methanol industries, to embrace green power direct connection.

Fan Pengfei, dean of the Energy Policy and Market Research Institute at the China Electric Power Planning and Design Institute, said that industrial parks consume more than 66 percent of the country's total energy. The implementation of this policy will further expand the scope of new energy development and utilization, he added.

Case Study

Jiaxing Factories Embrace AI Pivot

By TANG Zhexiao, JIANG Yun & WANG Shu

Jiaxing, a city renowned as a manufacturing hub, has long relied on pillar industries like textiles, leather and hardware to drive its economic development. However, in recent years, the city has embraced advanced manufacturing clusters, using AI to accelerate upgrading of its traditional industries while simultaneously growing emerging and future industries.

At present, Jiaxing's AI industry records an annual revenue of 76.77 billion RMB, ranking third in Zhejiang province. Its deployed computing power stands at approximately 85,000 PFLOPS, accounting for half of Zhejiang's total.

CSB Bearing Technologies Co., Ltd., a manufacturer specializing in self-lubricating bearings, began researching and developing sliding bearings and joint bearings for robots in 2023. Adopting polymer composite materials, the manufacturer has successfully developed innovative products that operate stably in extreme environments ranging from -40°C to 120°C, with wear life more than three times the international standard. Its humanoid robot joint bearings have now entered the supply chains of several leading robotics enterprises.

Faced with the development bottlenecks of the traditional paper products industry — low added value, low user loyalty and insufficient data assets — Ji-axing Kexinrou Paper Industry, the country's top online seller in the wet tissue category, leverages AI technology to analyze consumer behavior and short-video content. It accurately identified the demands of core groups such as "refined mothers" and "rhinitis sufferers," realizing a digital-driven transformation to smart manufacturing.

In the traditional steel plate cutting sector, a company adopts an "AI + Collaborative Manufacturing" model, connecting more than 10,000 large CNC cutting devices, over 1,400 registered users and more than 60 suppliers across the country onto a unified online platform. The system can automatically interpret engineering drawings, apply AI-based pricing, and conduct intelligent order dispatching, helping enterprises raise

material utilization by over 10 percent.

Meanwhile, AI is also reshaping the design workflow of the traditional apparel industry. By integrating independently developed AI software, designers at Shenfu Technology have increased their average daily output from three to four styles to 400-500 and shortened the lead time from design to sample delivery to just 72 hours per order.

While revitalizing traditional industries, Jiaxing has made forward-looking layouts for future industries, pinpointing three core directions: AI, life sciences and health, and future energy.

At the industrial embodied intelligence training center of Institute of Flexible Electronics Technology of Tsinghua University, Zhejiang, various robots conduct scenario training and data collection via flexible tactile sensors. Currently, 240 robots are in training at the center.

It is reported that the center will complete the construction of a data collection platform and industrial demonstration lines this year, achieving 600,000 hours of data collection annually. It targets a data capacity of 1.5 million hours by 2027, and plans to build a national high-quality industrial embodied intelligence dataset and launch the world's first fully autonomous robot operation production line by 2028.

Moreover, Jiaxing has established a tiered cultivation system for R&D institutions, covering municipal high-tech R&D centers, provincial enterprise research institutes, provincial key enterprise research institutes, and global R&D centers.

Among industrial enterprises above designated size in the city, 5,065 have set up internal R&D institutions, with a coverage rate of 74.3 percent — ranking first in Zhejiang for five consecutive years, said Zhou Xiaojun, deputy director of Jiaxing Municipal Bureau of Science and Technology.

Local officials have announced plans to further improve the city's large-scale investment system for scientific and technological innovation. They also aim to accelerate the development of a new computing power system, and build a 10,000-GPU-scale high-performance computing cluster in the Yangtze River Delta.



A boy interacts with a humanoid robot in Puyuan Fashion Resort, Jiaxing, east China's Zhejiang province. (PHOTO: XINHUA)

Advancing AI Metrology Capabilities

By TANG Zhexiao

China has issued a guideline for the development of an AI metrology system and related capacity building, targeting industrial bottlenecks including algorithmic "black boxes" and data shortage.

The State Administration for Market Regulation (SAMR), which released the document with the National Development and Reform Commission, said it marks a pivotal shift for China's AI sector from expanding computing power and industrial scale to improving quality and consolidating fundamental capabilities. It is of great significance for advancing in-depth integration of AI technologies with the real economy and accelerating the growth of new quality productive forces.

To bridge the gap between laborator-

ry innovation and industrial application, the guideline centers on six major areas — foundational support, general technologies, core technology, metrology technical standards, industrial metrology industry and AI-enabled metrology.

To address inaccurate measurement and enhance the credibility of AI, it calls for research on key technologies such as monitoring and characterization of internal states of AI systems, in response to pain points including algorithmic black boxes and poor interpretability of decision-making. It promotes reliable, secure and credible metrology standards for AI, enabling the performance of AI technologies to be measurable, comparable and traceable.

The outline of China's 15th Five-Year Plan (2026-2030) calls for breakthroughs in new-type metrology and

calibration instruments, such as quantum metrology and in-situ metrology. The guideline supports the establishment of national-level R&D and application centers for metrology technologies, and the development of AI metrology standard devices with independent intellectual property rights.

China will accelerate building full-chain metrology capabilities covering algorithm models, computing power efficiency and data quality. These efforts will create unified measurement benchmarks for AI products.

To tackle data shortage, the guideline mandates developing datasets with top-tier metrological characteristics, standard reference datasets and test datasets. It also aims to put in place a mechanism to share basic resources to break down industrial data silos and

Green Power Goes Direct to Multiple Users

By TANG Zhexiao

China's initiative to promote multi-user direct access to green power aims to boost local consumption and utilization of new energy resources, according to a guideline jointly issued by the National Development and Reform Commission and the National Energy Administration (NEA).

Multi-user direct connection to green power is a model where electricity generated by wind, solar and other new energy sources bypasses direct integration into the public grid. Instead, such clean energy is delivered to multiple end users through dedicated transmission lines and power transformation facilities. Eligible consumers are limited to qualifying entities, excluding households and agricultural users.

Presently, China's total installed capacity of new energy has reached 1.9 billion kilowatts. Under the updated nationally determined contributions, the figure is poised to hit 3.6 billion kilowatts by

2035. With the surge in installed capacity of new energy, innovative consumption approaches are urgently required to broaden the scope of new energy development and application. The document clarifies who can take part in the green power direct connection mechanism. Newly-built power loads can adopt it, while existing loads can upgrade single-user projects to multi-user ones.

Users with a demand for green electricity (including enterprises subject to green electricity consumption targets, major energy-consuming and carbon-emitting enterprises, export-oriented enterprises with carbon reduction needs, and their upstream and downstream businesses) may leverage nearby renewable energy resources to explore the implementation of multi-user direct green power connections. Industrial parks, zero-carbon parks, and incremental distribution networks may connect all or part of their load to nearby renewable energy sources to form multi-user direct green power connection projects.

In respect of trading and pricing rules, the guideline stipulates that all qualified projects shall participate in the power market as a whole. They are allowed to optimize internal operational arrangements and adjust power generation and consumption curves. Meanwhile, the country will explore a time-of-use metering-based green power traceability system, which will be effectively linked with green power certificate management frameworks.

Local power balance and nearby utilization stand are essential solutions to address the difficulties in large-scale new energy consumption. The guideline sets clear requirements for local consumption: after grid-connected projects are commissioned, their annual on-grid power volume should not exceed 20 percent of their total available power output.

According to the NEA, the guideline directs project operators to reasonably declare grid connection capacity, so as to ease the occupancy of public grid resources. This move improves the

Embodied AI Backed by Systematic Progress

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Full-stack technological breakthroughs

If computing power is the engine, chips and OS are the heart and soul of embodied AI.

The Phytium S5000C-E CPU for high-performance server integrates 80 self-developed cores and runs at over 2.6 GHz. Notably, the Tianyi Cloud platform by China Telecom, built on this chip, ranks first globally on the SPEC Cloud IaaS 2018 benchmark. It proves the integrated power of China's home-grown technology systems, including the CPU, server, OS and cloud platform, said Phytium chief scientist Dou Qiang.

Over 13 million Phytium CPUs have been deployed across industries, with computing power expanding from data centers into robots, providing a solid Chinese chip for the independent and controllable embodied robot terminals.

The Kylin Industrial OS V10 newly

released by Kylin Soft features microsecond-level real-time performance and high certainty. It is designed for computing and control integration scenarios such as robots and CNC machine tools, ensuring precise delivery of every instruction.

The newly unveiled on-device agent "Kylinbot" overcomes the limitations of cloud-based agents, possessing powerful execution capabilities. It can directly call software and hardware tools to complete tasks like printing or office automation approval, effectively acting as a digital employee.

Tianjin has established a complete information innovation industrial system, covering chips, OS, database, server, terminals, cloud computing and security services. This is accelerating the formation of an autonomous, controllable, full-stack technology chain, providing a solid base for the takeoff of the embodied AI industry.