

# Action Plan of Chaoyang District for Accelerating New Infrastructure Construction (2020 - 2022)

This Action Plan is formulated to implement the decision and arrangement of the Central Committee of the Communist Party of China (CPC), the State Council, the CPC Beijing Municipal Committee and the People's Government of Beijing Municipality on accelerating new infrastructure construction to promote new infrastructure construction and integrated application development in Chaoyang District and cultivate new business forms and new models of economic development for high-quality economic growth in Chaoyang District.

## I. Overall Plan

### (I) Guiding Principle

We should follow the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, implement the guiding principles of the 19th CPC National Congress in full, apply the new concept of innovative, coordinated, green, open, and shared development, and implement the major national strategic plans and reform tasks. According to the *Beijing Action Plan for Accelerating Construction of New Infrastructures (2020–2022)*, led by the new development concept and driven by technological innovation, we should strengthen overall planning and coordination, and accelerate the construction of new infrastructure and the integrated and innovative development of industries, in an effort to support high-quality economic development and social governance capacity enhancement of Chaoyang District.

### (II) Basic Principles

- **Government guidance and market orientation.** We should integrate government guidance with market orientation, give full play to the role of private investors, and stimulate market vitality, so as to promote the formation of a multi-participation mechanism for government and enterprise collaboration.

- **Overall planning and systematic implementation.** By balancing existing and

incremental infrastructure as well as traditional and new types of infrastructure, and strengthening cross-department and cross-sector coordination, we should make reasonable planning, take targeted measures, and keep steady progress and systematic enhancement considering Chaoyang District's characteristics and industrial needs.

- **Strong foundation and ecological improvement.** We should start with future industrial construction to develop an ecosystem, consolidate the infrastructure, and pay equal attention to the transformation of traditional industries and the cultivation of new industries and new business forms, thus building an ecosystem of the whole industrial chain with Chaoyang District characteristics.

- **Demand-driven approach and innovative integration.** Based on market demand, we should focus on the actual needs of industrial development, accelerate the integrated development of traditional industries and new forms of business, and constantly expand smart application scenarios, in a bid to pursue the coordinated development of industrial chains and industrial applications.

### **(III) Overall Objectives**

By 2022, Chaoyang District will build an internationally advanced new infrastructure system with Chaoyang District characteristics featuring a solid network foundation, integrated intelligent data, excellent industrial ecology, active platform innovation, abundant smart applications, trustworthy and controllable security. We should promote the implementation of scientific and technological achievements in cutting-edge technologies such as artificial intelligence, big data, cloud computing, the Industrial Internet and blockchain and their in-depth integration and application with industries, make traditional industries more connected, more digitalized and more intelligent, and build an “urban brain” smart platform with meticulous efforts. By doing so, new infrastructure will be able to sufficiently empower the construction of a digital Chaoyang District and a high-tech Chaoyang District, thus ensuring higher quality of economic development, invigorated scientific and technological innovation, improved public services and enhanced social governance.

## II. Key Tasks

### **(I) Build solid and stable new network infrastructure**

- **5G network.** Concerted efforts should be made in channeling public facility resources to the 5G network, and increasing investment in the 5G network through a combination of upgrading existing base stations and building new ones. By 2022, more than 3,000 5G base stations are expected to be built with a cumulative investment of 500 million yuan, and a total of 2 billion yuan will be invested in 5G infrastructure networks, realizing continuous coverage of 5G signals within the Fifth Ring Road and accurate coverage of key areas and scenes outside the Fifth Ring Road. The construction of 5G base stations should transform from expanding coverage to enhancing quality, thus achieving targeted coverage of key areas and typical application scenarios such as Chang'an Avenue extension line, the core area of Beijing CBD and Olympic Green. In this way, a high-quality 5G network with excellent signals, wide coverage, and fast implementation will be established. More efforts should be made in building the airport expressway, Chang'an Avenue extension line, the area around China World Trade Center and Chaoyang Park into core areas of 5G commercial implementation. We should also speed up the integrated development of cutting-edge 5G technologies with artificial intelligence, Internet of Things, blockchain, and other technologies in Chaoyang District, promote innovation in the application of 5G technology, and accelerate the completion of a batch of internationally advanced innovative 5G application software products, comprehensive services, and technology integration solutions. (Responsible authorities: Bureau of Science, Technology and Informatization of Chaoyang District, Commission of Urban Management of Chaoyang District, Bureau of Planning and Natural Resources of Chaoyang District, Administrative Committee of Central Business District , Administrative Committee of Olympic Park and Administrative Committee of Chaoyang Science Park)

- **Industrial Internet.** Relying on China Academy of Industrial Internet, the establishment of a national industrial Internet big data center should be accelerated to realize the data collection, convergence, and application in key regions and industries,

strengthen the top-level design of data opening and sharing, and improve the management of industrial Internet infrastructure and data resources. A national-level industrial Internet demonstration base should be built with the Chaoyang Science Park as the key area to cultivate industrial Internet enterprises and projects and attract industrial internet platform enterprises and other leading enterprises, so as to build industrial internet platform and application system oriented to regions and industries, establish industrial cloud and industrial big data platform covering all key links of intelligent manufacturing, and form industrial internet industrial ecology serving the whole country. We should accelerate the construction of a national-level industrial big data trading platform and build it into an international leading one. We should establish an industrial internet innovation incubator to cultivate leading industrial enterprises with global competitiveness. Meanwhile, we should build a public platform and joint laboratory for industrial Internet innovation, so that research institutes and enterprises located in Chaoyang District will be able to jointly apply for and undertake major national scientific research projects in the core and the frontier fields of the industrial Internet. Such efforts will sustain the innovative development of the industrial Internet industry in Chaoyang District. (Responsible authorities: Administrative Committee of Chaoyang Science Park and Bureau of Science, Technology and Informatization of Chaoyang District)

## **(II) Build advanced and leading intelligent data infrastructure**

- **Artificial intelligence infrastructure.** Based on high-performance computing clusters, a basic platform for artificial intelligence computing power should be built with the integration of big data, cloud computing, artificial intelligence, Internet of Things, and other technologies, so as to provide public collaborative services of artificial intelligence for government departments and innovation entities in Chaoyang District. Efforts should be made in promoting the construction of an artificial intelligence super high-speed computing center to lay a foundation of computing power for new infrastructure construction. It is also important to build a collaborative innovation platform for the artificial intelligence industry, in a bid to boost the industrialization and integrated application of new-generation artificial intelligence

technologies, and accelerate the deep integration and joint innovation of artificial intelligence technology with cutting-edge technologies in the industrial Internet, the Internet of Things, 5G, and other fields. We should promote the development and deployment of key artificial intelligence technologies, and strengthen the leading role of artificial intelligence in intelligent security, finance, medical diagnosis, intelligent driving, industrial robots, urban brain and other application scenarios. (Responsible authorities: Bureau of Science, Technology and Informatization of Chaoyang District, Administrative Committee of Chaoyang Science Park, Commission of Development and Reform of Chaoyang District, Financial Office of Chaoyang District and Health Commission of Chaoyang District)

- **Big data platform.** With the implementation of the Beijing Action Plan on Big Data, we should build a centralized, standardized, shared and unified government services information database, thus forming a data information resource pattern with unified classification, metadata, data format, call and supervision. By integrating the underlying resources of the existing network, computing, storage and other information infrastructure, we should build a district-level government services cloud platform with cloud service capabilities including cloud application, cloud storage, and cloud security, so as to realize the unified deployment and use of green, low-carbon, safe and reliable applications of all kinds. In this way, an interconnected and ubiquitous big data sharing infrastructure will be established. We should also build a district-level big data platform to realize data sharing in the data repository and business system, connect with municipal data resources, and continuously improve the functions of the big data platform, so as to enhance the supporting capability of the platform in data models, analysis tools, artificial intelligence and other aspects of higher-level applications. (Responsible authority: Bureau of Science, Technology and Informatization of Chaoyang District )

- **New data center.** We should speed up the transformation and upgrading of existing data centers to become green, modular and power-intensive, encourage large leading data center enterprises to merge with small and medium-sized ones and encourage small and medium-sized data center enterprises to reorganize and integrate

for becoming stronger. We should transform decentralized data centers with small scale, high energy consumption and low efficiency towards intensification and high efficiency, improve the service efficiency of the new data centers in Chaoyang District, and reduce the comprehensive energy consumption of data centers. We should vigorously promote data center enterprises in Chaoyang District to go global and provide computing facilities for numerous Chinese enterprises overseas and international enterprises. We should also explore the construction of data trading centers, so as to try new trading methods and modes such as data use authority, integration results, secure multi-party computation, and opening by different levels in an orderly manner. (Responsible authorities: Bureau of Science, Technology and Informatization of Chaoyang District, and Administrative Committee of Chaoyang Science Park)

- **Blockchain service platform.** We should strengthen the leading role of technological innovation, actively cultivate leading blockchain enterprises, and encourage enterprises to jointly build the industrial application platform of research, development and innovation for achieving breakthroughs in core technologies, so as to accelerate the construction of the underlying open-source platform and common infrastructure. We should deepen the application of blockchain technology in government services that connect with Beijing's unified identity authentication platform, so as to promote data sharing and information matching in online office halls. We should also explore the application of blockchain technology in key areas such as e-commerce transactions, livelihood services, public security, and social credit. (Responsible authorities: Bureau of Science, Technology and Informatization of Chaoyang District, and Bureau of Government Services of Chaoyang District)

### **(III) Build a shared and open ecosystem infrastructure**

- **Shared open-source platform.** Relying on the Alibaba DAMO Academy for Discovery, Adventure, Momentum, and Outlook, Beijing Kunpeng Joint Innovation Center, 360 Security Platform and other institutions, we should improve the collaborative research and development capability of the underlying software and hardware, building an open and open-source application ecology. We should build a

large-scale open-source training platform and a high-performance reasoning framework that supports multi-terminal and multi-platform deployment, forming an industrial-level open-source operating system, open-source database, and open-source artificial intelligence reasoning framework that is oriented to industrial applications and covers multiple fields. We should support open hardware, open-source software, intelligent algorithms, industrial control, cybersecurity, and other application innovations based on open and open-source platforms, fostering an ecosystem of collaborative research and development and rapid iterative innovation. (Responsible authority: Bureau of Science, Technology and Informatization of Chaoyang District)

**- Pilot test service ecology.** The development of new pilot test service platforms such as shared production lines should be accelerated with the focus on key areas such as new-generation information technology and biomedicine. Based on key scientific and technological innovation entities such as open laboratories, scientific research institutions, colleges and universities, science and technology enterprises in Chaoyang District, we should provide pilot test services to industries, encourage enterprises to cooperate with research entities to build pilot test bases, and realize the full coverage of new pilot test bases in key industries. In this way, the pilot test service capacity of Chaoyang District will be comprehensively improved, forming a networked, platform-based and digital pilot test service ecology. (Responsible authorities: Bureau of Science, Technology and Informatization of Chaoyang District, and Commission of Development and Reform of Chaoyang District)

**- Industrial parks with distinctive features.** We should encourage the Chaoyang Science Park as a leading area with the focus on creating an innovative industrial layout of “one body and two wings”. “One body” refers to the establishment of a demonstration zone of new infrastructure based on the north section of Chaoyang Science Park. “Two wings” refer to the east section and the west section of Chaoyang Science Park. Based on Kunpeng Joint Innovation Center, the eastern section will build a digital transformation project area of traditional industries. The west section will build a demonstration area for the application of new infrastructure technology based on the headquarters of multinational corporations and related enterprises. To

build new infrastructure parks with distinctive features, we should provide special multi-dimensional and high-quality digital services for enterprises in the park through an innovative and intelligent service platform that is optimized and coordinated. We should build a batch of industrial theme parks and buildings with Chaoyang characteristics related to key industries of industrial Internet, artificial intelligence, 5G and other new infrastructure construction, so as to create a new ecology of the industrial park in Chaoyang District with strengthened industrial agglomeration effect and regional industrial identification. (Responsible authority: Administrative Committee of Chaoyang Science Park)

- **Common support software.** Based on the database and leading enterprises in the industry in Chaoyang District, we should break through the performance bottleneck in the traditional database architecture to realize real-time analysis and processing of big data by strengthening the research on the underlying key technologies of the database, and supporting the research and development of key technologies such as distributed memory database and stream database, thus building a database covering the whole life cycle of data collection, storage, management and use. We should lay out a distributed relational database for the financial industry, build an enterprise-level database management and development platform, and provide full-lifecycle management and database development services. Supports should be given to the development of critical tool software in industrial areas such as EDA and the Internet of Things, especially EDA design services and wafer fabrication engineering services. We should build an industrial Internet data security management system to provide various industry data security solutions. We should deploy cloud computing software in key industries, support super-large-scale cluster applications, and encourage the development of industry-featured software such as geographic information systems, so as to make several hidden champions in subdivided industries bigger and stronger. (Responsible authorities: Bureau of Science, Technology and Informatization of Chaoyang District, Administrative Committee of Chaoyang Science Park, and Commission of Development and Reform of Chaoyang District)



#### **(IV) Build active scientific and technological innovation platform infrastructure**

- **Scientific and technological achievement transformation and promotion platform.** We should support the establishment of world-renowned technology transfer institutions, carry out full-chain operations with the focus on international technology transfer, and build online service platforms that integrate various technology transfer resources, so as to bridge the gap between local innovation entities and international cutting-edge technologies. With strengthened new types of industry-university-research cooperation, we should carry out technological research and development and commercialization of new infrastructure-oriented technologies, and provide services such as technological innovation, business incubation, and personnel training for high-quality technological achievements through industrial alliances and associations. We should establish a long-term communication mechanism between service institutions for the transfer and application of scientific and technological achievements, and enterprises, universities, and institutes, to promote coordinated innovation and the application of scientific and technological achievements. We should give full play to the role of the fund guiding scientific and technological innovation and entrepreneurship in Chaoyang District, introduce internationally renowned venture capital institutions and international scientific and technological financial platforms based on the construction of international venture capital agglomeration area, and optimize and improve international venture capital and scientific and technological financial services, so as to support the implementation of scientific and technological achievements in new infrastructure-related industries. (Responsible authorities: Bureau of Science, Technology and Informatization of Chaoyang District, and Administrative Committee of Chaoyang Science Park).

#### **(V) Build smart application infrastructure for integrated development**

- **“Urban brain” smart platform.** We should promote “one center, three platforms, and five basic repositories” to build an “urban brain” technology support system with overall implementation and integration of management and operation,

and strengthen the convergence and governance of government data and social data. We should build a “directory blockchain” system with an operation and review mechanism to support data sharing and opening. We should share government data and industrial data with key industries such as transportation, economy, and urban operation to support the application of big data and artificial intelligence. We should carry out intensive construction of common components such as electronic seal, identity authentication, data analysis and visualization, speed up research and development of business analysis models based on integrated data, and provide unified and integrated basic tools for big data analysis and mining as well as artificial intelligence. In key fields such as urban operation monitoring, public safety management, urban emergency management, and economic operation monitoring, we should establish simulation and decision support models aiming at problems in various fields, and develop the ability to model and analyze complex and systematic problems such as the prediction of the overall development trend in various fields and the evaluation of the effect of policy implementation, so as to empower the intelligent application of all departments, streets, and townships. At the same time, we should establish a social credit system and form a two-level smart integration system through the interconnection of Chaoyang Pass and Beijing Pass, in a bid to comprehensively improve the ability of smart city management and smart government services. (Responsible authorities: Bureau of Science, Technology and Informatization of Chaoyang District, Commission of Urban Management of Chaoyang District, Commission of Development and Reform of Chaoyang District, Bureau of Emergency Management of Chaoyang District, State-Owned Assets Supervision and Administration Commission of the State Council of Chaoyang District, , Commission of Transport of Chaoyang District, Fire Department of Chaoyang District, Bureau of Urban Management and Law Enforcement of Chaoyang District, Chaoyang Branch of Beijing Municipal Bureau of Public Security, Urban Management Supervision Command Center of Chaoyang District, and Administration for Market Regulation of Chaoyang District).

- **Smart infrastructure for industries.** We should accelerate the linkage and

coordinated development of digital industrialization and industrial digitalization, focus on the emerging digital industry, and actively build and improve the supporting platform for the development of digital industry, so as to promote the digital transformation of traditional industries and foster and strengthen the new business forms and new models of the digital economy. We should promote the construction of a technologically advanced intelligent supply chain system by comprehensively utilizing cutting-edge technologies such as artificial intelligence, the Industrial Internet, and the Internet of Things in a bid to improve the stability of the supply chain. We should promote the smart and digital upgrading of physical enterprises, and support the construction of smart production lines, smart factories and unmanned factories. We should deepen the construction of a comprehensive economic analysis platform for advanced industries, carry out intelligent identification and fine monitoring and analysis of advanced industries and enterprises, and realize comprehensive monitoring and evaluation of the development trend of advanced industries from multiple dimensions such as industrial map, industrial development, industrial evaluation and enterprise insight. We should promote in-depth integration of the real economy with cutting-edge technologies such as 5G, cloud computing, big data, and artificial intelligence, and upgrade traditional industries and traditional infrastructure with digital empowerment. (Responsible authorities: Commission of Development and Reform of Chaoyang District, Bureau of Science, Technology and Informatization of Chaoyang District, and Administrative Committee of Chaoyang Science Park)

**- Innovation and development platform for small and medium-sized enterprises (SMEs).** Led by Beijing Kunpeng Joint Innovation Center, we should make full use of core technologies such as big data, cloud computing, industrial Internet, artificial intelligence, Internet of Things, and blockchain to build multiple industrial platforms with targeted support, providing multi-dimensional digital transformation and upgrading services for technology-oriented enterprises. Progress should be made in “Migrating to Cloud, Using Digital Tools and Enabling Intelligence”. We should support leading enterprises based on internet platforms in

extending their service chains, cultivate several digital service providers for SMEs, enhance their online and offline operation capabilities to foster new service models for traditional industries, and encourage all kinds of professional service institutions and enterprises to use cloud services and platforms. We should support the intelligent transformation of service platforms and entrepreneurship and innovation bases for SMEs, and create a digital enabling ecosystem for them. A new infrastructure industry collaboration platform should be set up. This platform aims to create a window for SMEs to link the new infrastructure industry chain and help them effectively connect and cooperate with the leading enterprises of new infrastructure, so as to facilitate SMEs to integrate into the new infrastructure industry ecology in Chaoyang District. (Responsible authorities: Bureau of Science, Technology and Informatization of Chaoyang District, Administrative Committee of Chaoyang Science Park, and Commission of Development and Reform of Chaoyang District)

#### **(VI) Build solid and complete trustworthy and secure infrastructure**

- **Secure infrastructure system.** We should focus on the segmentation fields and links of new infrastructure construction in Chaoyang District, speed up the layout of security protection platforms in various industries, and build a safe and trustworthy ecological environment of new infrastructure based on emerging technologies such as artificial intelligence, big data, cloud computing, Internet of Things, intelligent awareness, blockchain, software-defined security, and security virtualization through scenario-based exploration and deployment of security test platforms. We should cultivate a group of high-quality enterprises with core cybersecurity technologies and service capabilities, and support the research and development and industrialization of new products and services such as operating system security, new-generation identity authentication, secure terminal access, intelligent virus protection, passwords, and situational awareness, so as to establish and improve the product system of trustworthy and secure basic technologies, and form a security service capability covering terminals, users, network, cloud, data and applications at multiple levels of depth defense, accurate identification of security threats and efficient linkage. We should build a cybersecurity monitoring, early warning and response platform,

improve the security and protection level of key information infrastructure such as network and computing in Chaoyang District, build an information security system that integrates situational awareness, protection and monitoring, and improve the security monitoring and situational awareness capability of emergency Internet of Things. We should solve the problem of cyberattacks by establishing an analysis and decision-making model of urban cybersecurity operation management, improve urban cybersecurity protection and risk response, and ensure the safe operation of urban digitalization. (Responsible authorities: Bureau of Science, Technology and Informatization of Chaoyang District, Office of Cyberspace Affairs Commission of Chaoyang District, and Bureau of Emergency Management of Chaoyang District)

### III. Supporting Measures

#### **(I) Establish a working mechanism and strengthen organizational leadership.**

A district-level special leading group for new infrastructure construction in Chaoyang District should be established, with the Secretary of CPC Beijing Chaoyang District Committee and the District Mayor as heads of the leading group and the District Mayor in charge as the deputy head. The member units are relevant departments for new infrastructure construction in Chaoyang District. The leading group shall be responsible for guiding and supervising the development of key tasks. Located in Bureau of Science, Technology and Informatization of Chaoyang District, the office under the leading group is responsible for implementing the important decisions of the leading group and coordinating and promoting various works according to the work plan. At the same time, a district-level liaison mechanism for the promotion of new infrastructure construction in Chaoyang District should be established to strengthen cross-department coordination and cooperation, advance overall planning and implementation, and encourage the exploration of cross-department and cross-discipline operation modes.

#### **(II) Increase policy support and ensure financial support.**

We should introduce policies supporting new infrastructure-related fields such as technological innovation, industrial development, demonstration and application, and

investment promotion platforms. Active efforts should be made in seeking special funding from the Central Government and Beijing Municipal People's Government, increase local financing, innovate new infrastructure investment and financing models, and encourage and guide central enterprises such as basic telecommunications companies, local state-owned enterprises (SOEs) and private capital to increase investment in new infrastructure projects. We should establish an industrial development fund for the construction of new infrastructure in Chaoyang District, and give priority to supporting the development of enterprises in new infrastructure-related industries in Chaoyang District.

**(III) Adopt a project-driven approach and prepare for project reserves.**

We should establish a database of key projects for new infrastructure. Projects added to the database should be under whole process management with more attention and preferential policies. Focusing on weak areas in the development of new infrastructure, we should strengthen planning and reserve for targeted major projects with greater efforts to attract investment. We should also develop demonstration projects for the application of new infrastructure, and enhance policy support and publicity services.

**(IV) Implement responsibility assessment and strengthen follow-up monitoring.**

We should attach importance to the effectiveness of new infrastructure development by putting in place mechanisms for tracking and monitoring the implementation of new infrastructure projects and for performance evaluation, thus carrying out special tracking and monitoring and performance evaluation on the implementation of new infrastructure construction from the aspects of organization and leadership, task implementation, project promotion, and information submission.