China Mobile Beijing: Building a Smart Home Ecosystem Centered around its AI Home Hub

■ By China Mobile Beijing

A significant shift in the technology world over the past year has been the rise of artificial intelligence (AI), particularly large language models (LLM), which have reached mainstream consumers and rapidly influenced various business sectors profoundly. This has revealed the great potential of AI as a groundbreaking technology to boost productivity and creativity across various sectors, making many previously unattainable scenarios or experience possible.

This is also critical for the telecommunications industry, which is pivotal in shaping ICT infrastructure. We have to think about how to constantly adapt to emerging trends and evolving demands driven by AI, focusing on building a transformative business ecosystem, seizing new opportunities, and driving sustainable growth - all while redefining and enhancing the user experience.

Launched in May 2024, China Mobile Beijing's home computing host, or AI home hub, has been well received. With the smart screen or television at the core, China Mobile combined it with the intelligent computing capabilities to build the smart home ecosystem and improve the user experience. This strategic approach has helped secure a favorable position for China Mobile Beijing as as a key player in the smart home system. It also stands out as an example of systematic approach in products, services and branding in order to find a way to sustained growth for the telecommunications industry in the age of AI. Notably, by integrating gigabit networks, fiber-to-the-room (FTTR), and advanced AI capabilities seamlessly, China Mobile Beijing has has paved the way for

upgraded smart home products offering better services and user experience, in line with the strategic move of China Mobile to market is newly created AI Home brand.

Tailoring Futuristic Products and Ecosystems for the Intelligent World

On May 21, 2024, China Mobile Beijing held the Mobile AI Smart Home Conference with the theme of "AI Home: Bringing More AI to Homes." The core technology of the new products and services launched at this conference are the AI Home Optical Network AI Suite and the AI Home Optical Network Computing Suite. They represent a key step in the efforts of China Mobile Beijing in experimenting with intelligent experience for home users.

China Mobile Beijing's AI home hub is an intelligent product that integrates communication and interactive capabilities. Its core is the precise blend of AI technology with the experiences and security needs of the home scenario, particularly for motion involved activities like AI motion sensing games that offer strong interactivity. It features high-definition sensors and connects to a large model of the visual-neural network, allowing it to recognize the movements of each family member effortlessly. Moreover, it can be expanded with set-top boxes, video phones, and smart speakers, enabling users to watch TV, make calls, listen to music, and keep an eye on their home. This transforms the house into an entertainment hub, allowing users to enjoy a private gym without leaving home. It also facilitates smooth video calls with relatives and friends while watching movies together simultaneously with synchronized audio and visuals.

The AI Home Optical Network AI Suite is fully compatible with the AI home hub. With AI home security devices and gigabit broadband at the core, it significantly optimizes home network and security. It has the intelligent capabilities to identify family members and the changes in their status, such as sending an alarm when infants and young children approach the fence or warning pets through voice when they approach areas unsuitable for them. It offers a full suite of safety services.

The launch of the AI home hub by China Mobile Beijing has been the result of long-term effrots rather a sudden leap to success. China Mobile Beijing has been trying to offer better and richer products targeting home users with upgraded user experience. The Smart Home Video connection solution, which China Mobile Beijing developed with Huawei, has wonmajor awards in China.

The Smart Home Video Solution connects to the IMS network through VIS, facilitating communication between large and small screens in all scenarios. It comes with a direct VoLTE connection and allows users to reach all the services on the terminals without downloading any additional apps. It offers large screen to large screen and large screen to small screen family calls, providing 1080P high-definition video quality to ensure users have a comfortable calling experience. At the same time, it enables sharing capabilities, allowing users to interact with relatives and friends in real time while watching movies, with accurate content synchronization, so they can watch movies and chat simultaneously. Such efforts in offering intelligent and interactive experience have been on the accord with the trends in the industry of going for intelligent home experience.

Moving Swiftly to Improve User Experience by Going Intelligent in Business

In terms of the user experience, China Mobile Beijing relies on the AI home hub and thenetwork products catering to the needs of households, combine them with intelligent features to improve the user experience and ultimately achieves an upgrade in its telecommunications business.

The AI home hub is the core integrating point of the smart home system. From the living room to the bedroom, China Mobile Beijing has created a convenient new experience in the smart era, including voice control for smart speakers, visualized management through smart displays, and connected, programmable home appliances, all contributing to making the home smarter, more convenient and safer. Moreover, with health

monitoring equipment added, the system can upload user health data in real time, provide alerts for abnormal physical signs and indicators, offer improvement consultations and suggestions, and deliver various services to safeguard a healthy life.

Migu, a subsidiary of China Mobile, also plays an important role. Migu and China Mobile Beijing have created a series of digital cultural applications utilizing 10G optical networks, such as 8K high-definition video, naked-eye 3D, AI motion training, and more. Migu's intelligent digital sports technology center leverages cut-

ting-edge technologies such as 10G optical networks, computing power networks, and distributed cloud rendering to serve as a venue that integrates culture, sports, technology, and education. The facility features VR classrooms to offer children an immersive learning experience, as well as immersive sports games to provide users an unprecedented gaming experience.

China Mobile Beijing has introduced AI services to enhance the experience of its app users. Customers can easily access the service page on the app by activating the AI smart assistant, known as "Lingxi", with their

voice, allowing convenience for users. The mobile app features a large customer service model that employs AI customer service to assist customer service representatives in quickly understanding customer inquiries and improving accuracy and responsiveness. Various real-time and efficient online supports, such as autonomous troubleshooting, video customer service, remote service, and on-site visits by smart home technicians, will provide a comprehensive, multi-faceted, intelligent, and high-quality service for online and offline customers.

Building an Ecosystem and Improving Branding by Integrating Smart Home Products

China Mobile Beijing has managed to seize the business opportunities presented by increasingly diverse smart home scenarios, such as intelligent interactive experiences, which represent a major trend. The AI home hub can integrate a wide range of fitness and gaming applications, gradually forming an ecosystem. People pursuing a career would often go to the gym and kids may have to stay at home, resulting in a lack of daily sports activities. With the gradual maturing of application scenarios utilizing network technologies and intelligent capabilities, the fitness needs of family members can now often be satisfied at home. The growth of smart home experiences and ecosystem has allowed us to go beyond the traditional concept that a big screen is only for watching movies. The AI home hub thus becomes the key integrating point in the smart home ecosystem. By utilizing the computer vision, computing and bone feature recognition technologies, we can improving the accuracy of interactive applications and the real-time experience and sense of participation. China Mobile Beijing is dedicated to collaborating with industry partners to drive the comprehensive intelligent upgrade of smart displays from mere "watching" to "experiencing", gradually building on the smart home ecosystem.

The move of China Mobile Beijing in terms of the smart home operations is consistent with the strategy of its parent group firm China Mobile. In 2024, China Mobile launched AI Jia, or "AI/Love Home", playing on the pun of AI, which also means love in Chinese. It is fourth major consumer brand of China Mobile, after GoTone, Easy Own, and M-Zone. Marketing campaigns quickly followed, with China's legend springboard diver Guo Jingjing as its brand ambassador. Guo has been known as for her positive attitude of hard work and sprit of striving for the better and her healthy image as a mother. Such initiatives show China Mobile's ambition to capitalize on new business opportunities in the AI era and its fast move to act.

China Mobile Beijing launched major campaigns to promote its home products and services. China Mobile Beijing has launched special offers online, including supermarket vouchers and video memberships. Offline, it has further connected with customers by organizing various family-oriented club events such as sports, parent and kids events, and other lifestyle activities. China Mobile Bejing will continue introducing more innovative family-oriented events, allowing more and more of its mobile subscribers to enjoy the benefits of its smart home and lifestyle.

China Mobile Beijing will continue to work with industry partners to build the ecosystem of smart home operations combining the key elements such as the fibre, the network and the smart home and ushered in a new chapter in the smart home services brand of China Mobile Beijing with intelligence, warmth and assurance.

Beijing is the front runner in deploying dual-gigabit network. By the end of April 2024, there were an average of 52 5G base stations for every 10,000 people and 21.27 million 5G mobile phone users. 5G users accounted for more than 50% of the data traffic. There are 2.54 million gigabit broadband users, and a high-quality, all-optical transport network designed to achieve the lapse of "1ms within Beijing and 2ms around Beijing." As a result, the scale of Beijing's digital economy has continued to grow, consistently ranking among the front runners in the country.

Undoubtedly, AI is rapidly producing an impact on our daily lives. It is changing the way information and con-

tent are generated and the ways of interaction.It is improving efficiency by a hundred times, growing data traffic tenfold, revolutionizing the experiences of individual users, in the cars and at homes, ushering in a new era of intelligent Internet of Things, taking the industries to the age of intelligent digitalization and reshaping our life and work experiences.

AI will bring more possibilities when combined with the 10G networks and unlock new potentials and facilitate the digital transformation and intelligent advancement of society and industry. By expanding and improving the telecommunications network infrastructure, and integrating 5G-A/F5G-A and AI, we shall be able to produce great synergy, boost the productivity, and enhance the quality of life of many. China Mobile Beijing will continue working with industry partners to build the ecosystem in the 10G network era and contribute towards the industrialization and the growth of low-altitude economy. We shall continue to play a role in making Beijing a smart city and a leader in digital economy.

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