4. “Xiaomi AIoT+Digital Symbiosis Green Products and Value Chain” 2023 Paulson Sustainable Development Green Innovation Category Top Ten Nominations.
5. Xiaomi’s whole-house smart home system won the Level 5 certification of Telecommunication Technology Laboratory in 2022.
6. The hardware devices in the Xiaomi AIoT platform are deeply integrated with the Mijia application. Based on Xiao Ai’s multi-modal voice interaction and intent understanding capabilities, relying on the basic IoT method that supports multiple communication protocols, it independently develops communication modules that can adapt to all categories of smart homes, and has won
7. global authoritative certifications. The industry test has been ranked first in the industry in core indicators for three consecutive years.

In 2022, the project “Key Technologies and Applications of Heterogeneous Interconnection and Converged Interaction for Whole-House Intelligence” won the Second Prize of Beijing Science and Technology Progress Award.

Project Implementation

Xiaomi insists on technology-based development and has established 10 R&D centers, more than 200 laboratories and more than 16,000 engineers around the world. The annual R&D investment in 2023 will reach about 20 billion yuan. Based on Xiaomi’s long-term investment in artificial intelligence, the Internet of Things, and big data, Xiaomi has built an artificial intelligence Internet of Things platform for smart homes to help small and medium-sized enterprises in the field of smart homes achieve user-oriented intelligent management of products. As of June 30, 2024, the number of monthly active users of Xiaomi AIoT platform will reach 676 million worldwide, and the number of connections and interactions will maintain a rapid growth trend. It is internationally leading in connection capabilities, interoperability, and ecological capabilities, and its interaction capabilities have reached the world’s first-class level.

Xiaomi AIoT mobile terminal smart software includes Mijia APP and Xiaoai, etc., which provide users with one-stop access to Mijia products and other brands of home appliances, and have smart energy scenarios such as whole-house intelligence, which not only provides users with a convenient and comfortable smart environment, but also shows users energy usage and provides energy-saving suggestions. In terms of IoT-based device-level energy-saving patents and user environment customization control based on mobile phone interaction, it has obtained a number of world-leading energy-saving patents, which automatically improve the comprehensive energy efficiency of users while providing comfortable use of home appliances.

Xiaomi has fully utilized the advantages of chain-leading enterprises with its technological innovation and integration and coordination capabilities. Based on the ecological strategy 2.0, it has built a “Xiaomi AIoT+digital native green product value chain” system to reduce the carbon footprint of electronic products throughout their life cycle. By building a digital native IoT platform, it provides systematic solutions and key technology demonstrations for the consumer electronics industry with technological innovation and integration and coordination capabilities. The platform has quickly become the world’s largest consumer-grade IoT platform and has been leading to date, connecting more than 600 million devices worldwide. Based on data, it realizes domestic and international dual circulation by supplementing and strengthening the chain, providing systematic solutions and key technology demonstrations for the quality improvement and carbon reduction of intelligent manufacturing in China’s consumer electronics industry. It has realized the operation system and flexible production of smart factories, improved the efficiency of manufacturing, and reduced the carbon footprint of the value chain.

Based on Xiaomi’s AIoT application system, Xiaomi displays energy consumption to users and provides energy-saving suggestions through the Mijia APP. At the same time, the AIoT system gives full play to the ability of information interaction, provides upstream enterprises with user portraits of energy-saving products in new scenarios, provides downstream users with multi-scenario smart interconnection and automated energy-saving technology, and continuously improves the low-carbon performance of products. Through large-scale production and global shipments with the ultimate experience of “basic models”, a series of “touching people’s hearts and reasonable prices” good products have been created in the process of low-carbon iteration and upgrading, such as power strips, power banks, Xiaomi bracelets and other products that quickly occupy the market share and subvert the original low-price and low-quality, high-price and high-energy consumption product experience. As Xiaomi products become the mainstream choice in the market, they have set a model for low-carbon products for the entire industry.

From basic technology to application technology, from hardware to software, from content to services, from user ecology to business ecology, Xiaomi AIoT’s ecology is becoming more and more perfect. Xiaomi provides a complete and open artificial intelligence open platform, which mainly serves consumer smart hardware (for home use) such as smart home devices, smart home appliances, smart wearable devices, and smart travel devices and their developers, so that smart hardware can be controlled by Xiaoai and Mijia APP, and realize the interconnection between smart hardware, providing users with excellent smart hardware interaction experience. Xiaomi mobile phones and Mijia APP have become system-level entrances to almost all life scenarios of users. As of June 30, 2024, the number of users with five or more devices connected to the AIoT platform reached 16.1 million, a year-on-year increase of 24.2%. Xiaomi AIoT smart terminals continue to expand the influence of Mijia and low-carbon energy conservation, creating a low-carbon and happy life for consumers.

Project Impact & Sustainability

As the chain owner of electronics consumption, Xiaomi’s supply chain has thousands of raw material suppliers and hundreds of foundry resources. At the same time, it has developed into more than 300 Xiaomi ecological chain companies and 4,000+ corporate developers, achieving 2,200 smart home categories. The large-scale industrialization of more than one type of smart hardware products has affected more than 40% of domestic supply chain companies and has a demonstration and driving role in the consumer electronics and smart home industries. Xiaomi integrates minimalist concepts into green industrial design and provides unified minimalist industrial design specifications to more than 100 ecological chain companies. Through the AIoT developer platform, Xiaomi provides free technical support to the supply chain, significantly reducing manufacturing materials and production costs. Based on the open one-stop access capability, it provides feedback on the energy consumption characteristics of different equipment to ecological chain enterprises, promoting upstream enterprises to adopt energy-saving technologies and extending the service life of products. “Basic” products with minimalist concepts as the core continue to reduce the carbon footprint of products through innovative iterations, and achieve the ultimate quality of products.

Xiaomi has solved the problems of lack of standards, low efficiency, lack of systems and disconnection in the smart terminal industry chain, and established 7 national and industry standards in 3 key links to improve operational efficiency. Promote the digital transformation of upstream and downstream enterprises with different empowerment models: the supply chain adopts a free platform access strategy to meet the delivery requirements of 500 suppliers. Smart manufacturing adopts a limited-time free + paid value-added strategy to meet the common demands of 12 foundries for cost reduction and efficiency improvement. The new retail link meets the common profit demands of 5,000 partners through free empowerment.

By quickly opening up the data chain from the platform application end to the production end based on the Xiaomi AIoT system, a complete closed loop between “user-product-manufacturing and supply chain” is achieved. Data is treated as an independent element and a complete data operation line is designed. Xiaomi uses native data to build a smart factory operation system, which processes, analyzes and provides feedback in real time to the data collected during the production process, and continuously promotes intelligence and production efficiency improvements. Ecological chain companies can obtain user energy feedback and energy-saving effects in different smart scenarios obtained from clients in a timely manner, and integrate them into energy efficiency optimization and smart scenario development in product iterations.

Expert Comments

Building on its Ecosystem Strategy 2.0, Xiaomi has integrated its strengths in intelligent manufacturing, supply chain management system, product industrial design, user feedback, and interaction design. Through its “Xiaomi AIoT + Digital Native Green Product Value Chain” system, Xiaomi maximizes production and product efficiency across the user-engineer-supplier chain, reducing the carbon footprints throughout the lifecycle of electronic products. This case has received multiple authoritative certifications and awards, allowing Xiaomi, an industry leader, to set a benchmark in low-carbon product development. It also provides a systematic solution and critical technological demonstration for the consumer electronics sector, with exemplary leading role in the consumer electronics and smart home industries.