

# From Drones to Humanoids: Ningbo Charts Its AI Economy

By Jin Yuhan

Cutting-edge technologies such as artificial intelligence, the Internet of Things, blockchain, and data analytics are transforming manufacturing, lifestyles, and urban development.

From September 5 to 7, Ningbo will host the 15th Smart City and Intelligent Economy Expo. Under the theme "AI-Driven Evolution for the New Era", this year's event will place a strong emphasis on AI, highlighting Ningbo's innovations in AI-driven industries and offering a closer look at the city's smart economy landscape.

## The Low-Altitude Economy Takes Off

At Ningbo's Laowaitan, a white drone lifts off, carrying takeout milk tea from Jiangbei Wanda Plaza to a smart distribution station. Twelve minutes later, it arrives at the customer's location.

This is just one example of how the low-altitude economy is moving from concept to real-world use across industries.

Experts predict 2025 will be the year when applications of the low-altitude economy begin shifting into large-scale industrial rollout. At its core, the sector centers on the manufacturing of low-altitude aircraft—drones, eVTOLs (electric vertical take-off and landing vehicles), and traditional general aviation aircraft. Ningbo is home to more than 10 drone manufacturers that are advancing their technology and exploring new applications, with an eye on global markets.

One local company, Ningbo Yixin Smart Technology Co., Ltd. has secured the city's first drone logistics license. "We plan to build the first urban low-altitude public transport landing pads in Ningbo in the next three to



Zeekr Group. [Photo provided by Yin Cong]

five years," said Wu Changyong, chairman of Yixin. "We will also bring the experience gained in Ningbo to Hong Kong and, eventually, to overseas markets such as Southeast Asia."

Beyond delivery services, Ningbo companies and research institutes are developing specialized aircraft for emergency response, surveying, mapping, and urban management.

According to Wu, Ningbo's strength lies in its robust manufacturing ecosystem. From lightweight materials to critical components such as batteries, motors, and sensors, the city's supply chain is well-positioned to support the emerging industry.

Several traditional auto parts manufacturers in Ningbo have already secured contracts to supply components for low-altitude aircraft, underscoring how the sector is creating new opportunities across the local economy.

## Harnessing the Power of Data

Data, computing power, and algorithms are widely seen as the three pillars of the AI era—with data being the most fundamental.

Ningbo is prioritizing data collection, application, and sharing to unlock value across its full lifecycle. The goal is to transform "hidden data" into new sources of growth.

One example is Ningbo Boden AI, a leading provider of data-annotation services, particularly for autonomous driving. The company is now among the largest in both Ningbo and Zhejiang Province by training volume and capacity.

"Our independently-developed BASE platform has entered its sixth generation. It contains hundreds of pre-annotation models and AI-assisted tools," said Gan Fengyu, a company representative. "This shifts data annotation from a labor-intensive process to a tech-driven one, cutting manual work and sharply reducing costs."

The same data-driven approach is reshaping manufacturing. At Zeekr's assembly workshop, robots now install tires and doors with minimal human assistance. Workers position the door, and robotic arms complete the rest with precision—an upgrade made it possible through real-time data integration.

"The application of data has made the production of every Zeekr vehicle smarter," said Yang Hui, Zeekr's manufacturing director.

## Humanoid Robots in Real-World Settings

Developed by Zhejiang Humanoid Robot Innovation Center, the "NAVIAI-i2" humanoid robot has been designed for multiple real-world scenarios. In factories, it uses a dexterous hand to position fabric on sewing platforms; in exhibition halls, it greets visitors and navigates sloping ground; and in supermarkets, it takes orders through a mini-program and delivers goods directly to customers. These functions were showcased at the 2025 World Robot Conference, where the NAVIAI-i2 drew attention as one of Ningbo's latest advances in humanoid robotics.

Humanoid robots are increasingly seen as a key form of embodied AI. Local manufacturers in Ningbo stress that the humanoid form is only the surface—the real value lies in solving specific problems in real-world scenarios.

Developing such robots requires a highly intelligent "brain" for perception and decision-making, a "cerebellum" for coordination, and advanced mechanical limbs for smooth movement.

Ningbo's embodied AI industry already covers much of this supply chain, with established strengths in core components such as reducers, servo motors, and controllers. Given the overlap between humanoid robots and smart vehicles in both hardware and software, many Ningbo companies are adapting their automotive expertise to robotics partnerships.

As of June, 88 of the 294 suppliers working with the Zhejiang Humanoid Robot Innovation Center were based in Ningbo, providing 38% of all the parts the Center uses. This model is expected to continue developing as the sector matures.

At the same time, Ningbo is working to close gaps in areas such as foundational AI models, computer vision software, and chip computing—critical for enabling robots to perceive, plan, and move with greater intelligence.

# 23 Ningbo Firms Named Among China's Top 500 Private Enterprises

By Zhao Yu

Ningbo has set a new record on the "2025 List of China's Top 500 Private Enterprises", with 23 local companies making the ranking, one more than last year.

Leading the group were Youngor Group, Jintian Investment Holding, and China-Base Ningbo Group, which placed 45th, 57th, and 64th with revenues of 164.572 billion yuan, 148.624 billion yuan, and 141.614 billion yuan, respectively.

Ningbo companies also featured prominently on sector-specific lists. Twenty-five were named to the "Top 500 Private Manufacturing Enterprises",

while five appeared on the "Top 100 Private Service Enterprises", matching last year's totals.

Alongside the rankings, the Ningbo Municipal Federation of Industry and Commerce and Jiangxia Think Tank released the 2025 Research Report on Large-Scale Private Enterprises in Ningbo. The survey covered 490 major firms, which in 2024 invested 33.9 billion yuan in R&D, up 2.5% year-on-year. These companies held 69,304 valid domestic patents and 6,082 international patents, with invention patents making up 32% of the 11,168 new patents they earned during the year.

In 2024, the surveyed firms reported combined reve-

nue of 2.62 trillion yuan, net assets of 780.038 billion yuan, and profits of 89.266 billion yuan, rising 7.5%, 4.0%, and 6.3% respectively from a year earlier.

By the end of 2024, Ningbo counted 1.375 million registered private market entities, representing 96.7% of all businesses. The city's 9,584 large-scale industrial private enterprises generated 317.1 billion yuan in added value, accounting for 60.4% of the total for large-scale industry and up 8.8% year-on-year—outpacing the overall growth rate of large-scale industries by 1.1 percentage points and contributing 68% of their growth.

Private firms also drove



A worker uses upgraded machine. [Photo by Feng Xuan]

Ningbo's trade, with imports and exports reaching 1.08843 trillion yuan, a 13.0% increase that accounted for 76.6% of the city's total, up 1.2 percentage points from 2024.

Emerging industries posted

strong results as well, with large-scale manufacturing in artificial intelligence, high-end equipment, and other strategic sectors rising 15.5%, 13.8%, and 12.9%, respectively—all achieving double-digit growth.

## Malaysian Student Explores Chinese Culture in Ningbo

By Jin Lu

This summer, Malaysian student Mithilesh Tew from the University of Nottingham Malaysia took part in a dragon dance performance at the University of Nottingham Ningbo China, gaining a memorable cultural experience that drew attention both on campus and online.

Dressed in traditional red, Tew skillfully maneuvered the dragon, symbolizing power and good fortune and crafted with centuries-old Chinese folk techniques. A video of the performance quickly circulated among Chinese and Malaysian students, with many remarking on the shared cultural resonance despite their different backgrounds.

Tew, whose family has Fujian heritage, grew up steeped in Chinese traditions and language. Classics such as Journey to the West and Romance of the Three Kingdoms shaped his early understanding of Chinese culture. "My family always reminded me to remember my roots," he said.

Since arriving in Ningbo as a computer science exchange student in 2024, Tew has been struck by the university's integrated curriculum spanning China, Malaysia, and the United Kingdom. Outside of class, he has explored local history and culture: visiting the Tianyige Museum and Laowaitan, sampling Ningbo cuisine, and trying Chinese boba tea that reminded him of home.

Tew's experience highlights a growing trend of Malaysian students in Ningbo who are combining academic study with cultural immersion, forming friendships and building connections that bridge national boundaries.

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