

# Ningbo Showcases Next Wave of Humanoid Robots at Global Conference

By Zhao Yu

At the 2025 World Robot Conference in Beijing, more than 200 companies from around the world came together to explore the future of robotics. Among them were ten firms from Ningbo, highlighting the city's strengths in humanoid robot applications and raising its profile on the global stage.

## Humanoid Robots Gear Up for Mass Production

"Our NAVIAI-i2 stands 1.65 meters tall, weighs about 60 kilograms, and is a full-sized, fully dexterous humanoid robot with precision handling skills," said a representative of the Zhejiang Humanoid Robot Innovation Center Co., Ltd., a company capable of R&D in embodied intelligence hardware and software.

The representative added that NAVIAI-i2 is supported by AI computing power capable of 275 trillion computations per second and equipped with precision robotic arms. "Each arm has seven degrees of freedom, can carry a load of five kilograms, and has an accuracy of 0.1 millimeters in executing motions." The robot can also walk steadily on concrete, asphalt, and rubber tracks, with a maximum speed of 1.5 meters per second.

Currently, NAVIAI-i2 has already been applied in research, education, smart retail, and intelligent manufacturing. This year, the center established a factory in Haishu District and is preparing to begin mass production of several hundred humanoid robots.

Although not exhibiting at the conference, Ningbo PIA Automation Holding Corp. has been busy showcasing its robot "J.A.R.V.I.S.," which has gained national attention through demonstrations.

After iterative upgrades, "J.A.R.V.I.S. 2.0 now stands 1.7 meters tall with robust legs. Its hands possess 12 degrees of freedom, enabling it to accurately identify and



Firms from Ningbo highlight the city's strengths in humanoid robot applications. [Photo by Yin Cong]

grasp items on shelves. It can handle the workload of several workers and never tires." The upgraded robot is expected to become a star performer on the workshop floor in the near future.

According to PIA's development plan, a production line for embodied intelligence robots with an annual design capacity of 1,000 units will soon begin operations. "We have the production capacity, but there's still room to expand sales further," said Zhou Xingyou, Vice President of PIA Automation.

As one of the world's top 50 automotive parts suppliers, PIA Automation turned to the emerging humanoid robot market two years ago. "It will be the next major growth frontier, following home appliances, smartphones, and electric vehicles," Zhou said.

Currently, more than 200 embodied intelligence robot companies in China are competing in what analysts describe as a growing trillion-yuan market. The International

Federation of Robotics forecasts the global humanoid robot market will reach hundreds of billions of yuan by 2030.

## Robots Step Into Real-World Roles

Humanoid robot technology is moving from the lab into real-world applications, gradually finding its place in industry, commerce, consumer spaces, and specialized fields. Robots are leaving laboratories and entering diverse settings, bringing a physical dimension to artificial intelligence.

Unlike last year, when the focus was largely on demonstrating technical capabilities, this year more companies are highlighting how robots can be deployed commercially. From warehouse parcel-sorting lines to help desks in retail spaces, manufacturers are actively exploring real-world work scenarios for their robots.

"Currently, NAVIAI is already operating in multiple

areas. One of its first uses is assembly line work," a representative from Zhejiang Humanoid Robot Innovation Center said during a demonstration, as the robot picked up a brush, dipped it in glue, applied it evenly to a surface, set the brush down, and placed the item aside to dry—all in one fluid motion.

To help humanoid robots be able to work in more settings, cross-disciplinary coordination is critical. "Since establishing our base in Ningbo, our team has grown to over 100 members. They are primarily algorithm developers and mechanical engineers," the representative explained. Interdisciplinary collaboration is key to making humanoid robots faster, smarter, and more agile.

NAVIAI has also demonstrated more creative applications. Holding a baton, the robot can imitate a symphony conductor, waving its arms naturally and fluidly. "We captured the musicians' movements and mapped them onto the robot, essentially reproducing the actions," the representative said.

A robot's joint quality directly affects its range of motion and precision, with the reducer being a critical component. The Innovation Center partnered with a leading Ningbo enterprise specializing in precision reducers to improve core components, cutting back lag and uncoordinated limb movement.

According to the representative, a sophisticated industrial ecosystem is essential for Ningbo's humanoid robot development and for enabling more diverse application.

Industry experts expect the first large-scale applications of humanoid robots to be in essential but low-speed, high-frequency commercial tasks—such as moving boxes in pharmacies, providing information in shopping malls, and patrolling campuses. These roles are clearly defined and take place in predictable environments, making them well-suited for early-stage technologies. For now, the focus will remain on factories and hospitals before expanding to consumer and household markets.

## Biodiversity Tourism Brings New Life to Qingyun Gorge

By Jin Yuhuan

At Qingyun Gorge in Ningbo's Haishu Wulong Lake Scenic Area, rafting attendant Wu Huiliang sits in the shade with a bamboo pole, nudging the occasional stuck raft back into the current.

For the 69-year-old, the job is more than just a way to pass the time. With a daily wage of 145 yuan and only a five-minute walk from his home in Longgu Village, Wu says he never imagined the rivers and mountains he grew up with "could be so profitable"—or that they would give him the chance to rejoin the workforce.

The shift, Wu recalled, began several years ago when Longguan Township started promoting biodiversity. He admits he doesn't fully grasp the concept, but he has seen its effects: new attractions like the Biodiversity Experience Hall and Fern and Butterfly Nature Center drawing children, steady streams of tourists, homestays filled to capacity in peak season, and villagers earning extra income by running food stalls or selling souvenirs.

Wu isn't alone in finding new opportunities. Ye Jianbo, 48, now works at a café beside the scenic area's waterfall. Now that she has finished her training program, she can whip up more than a dozen drinks.

"Coffee tastes different here," Ye said with a smile. "You can watch butterflies drifting by while you sip."

Visitors are noticing too. Mr. Lin, from Jiaxing, stopped at Ye's café with his two sons. "We came to see plants and animals we can't find back home," he said. "Along the trails, you can scan QR codes on the name tags to learn about them—it makes it easier to explain things to the kids."

In the afternoon, the family planned to head to the rafting course where Wu works. Demand there has surged alongside the area's rising popularity.

"With all the tourists, we're busy from morning till night," Wu said. "Sometimes we barely have time to eat."

Since opening just a month ago, Qingyun Gorge rafting has already brought in 2 million yuan, according to manager Yao Wen. By the end of the season in mid-September, revenue is expected to top 4 million yuan—exceeding the annual ticket income of the entire Wulong Lake Scenic Area.

For locals, the boom has been transformative. "With more visitors, everything's easier," Wu said, wiping sweat from his brow. "Shops and homestays are opening up everywhere. Things are much better than before."

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# Ningbo Folk Art Showcased at Suwon Arts Festival in South Korea

By Jin Lu

On Aug. 20, a folk-art exhibition from Ningbo, Zhejiang Province, opened at the Suwon Convention Center to mark the 33rd anniversary of China - South Korea diplomatic ties.

Nearly 100 handcrafted works were on display, including cannetille embroidery, wickerwork, and knot buttons. South Korean visitors were drawn not only to the intricate designs but also to hands-on demonstrations,

while Ningbo specialty rice cakes offered a taste of the region's culinary heritage.

The event, organized by cultural associations from both countries, marked the first time that so many Ningbo traditional crafts appeared simultaneously at the Suwon Arts Festival. Alongside the folk art showcase were souvenir products inspired by the city's academic heritage, calligraphy works, and traditional shoe-making craft.

Performances added another dimension to the cultural

exchange. Led by cultural ambassador Chen Lina, a guqin troupe from the Zhejiang Conservatory of Music performed traditional pieces, bringing the sounds of one of China's oldest instruments to the festival stage.

"We're not just presenting Ningbo folk art," Chen said. "We're sharing the culture and stories of our hometown. Through exchange, we can discover common values and strengthen cultural identity, opening new doors for dialogue."



A display of Ningbo's crafts. [Photo provided to Ningbo Times]

