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Humanoid robots raced against humans for the first time in a half-marathon in China's Beijing on Saturday.

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Summary   **Companies**

Robot winner is Tiangong Ultra from Beijing robotics centre

Time at 2 hours 40 minutes more than twice men's race winner

BEIJING, April 19 (Reuters) - Twenty-one humanoid robots joined thousands of runners at the Yizhuang half-marathon in Beijing on Saturday, the first time these machines have raced alongside humans over a 21-km (13-mile) course.

The robots from Chinese manufacturers such as DroidUP and Noetix Robotics came in all shapes and sizes, some shorter than 120 cm (3.9 ft), others as tall as 1.8 m (5.9 ft). One company boasted that its robot looked almost human, with feminine features and the ability to wink and smile.

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Some firms tested their robots for weeks before the race. Beijing officials have described the event as more akin to a race car competition, given the need for engineering and navigation teams.

"The robots are running very well, very stable ... I feel I'm witnessing the evolution of robots and AI," said spectator He Sishu, who works in artificial intelligence.

The robots were accompanied by human trainers, some of whom had to physically support the machines during the race.

A few of the robots wore running shoes, with one donning boxing gloves and another wearing a red headband with the words "Bound to Win" in Chinese.

The winning robot was Tiangong Ultra, from the Beijing Innovation Center of Human Robotics, with a time of 2 hours and 40 minutes. The men's winner of the race had a time of 1 hour and 2 minutes.

The centre is 43% owned by two state-owned enterprises, while tech giant Xiaomi's (1810.HK) ⬀ robotics arm and leading Chinese humanoid robot firm UBTech have equal share in the rest.

Tang Jian, chief technology officer for the robotics centre, said Tiangong Ultra's performance was aided by long legs and an algorithm allowing it to imitate how humans run a marathon.

[1/3] Humanoid robot "Tiangong" participates along with human runners in the E-Town Half Marathon & Humanoid Robot Half Marathon in Beijing, China April, 19 2025. REUTERS/Tingshu Wang Purchase Licensing Rights ⬀

"I don't want to boast but I think no other robotics firms in the West have matched Tiangong's sporting achievements," Tang said, adding that the robot switched batteries just three times during the race.

SOME ROBOTS STRUGGLE

Some robots, like Tiangong Ultra, completed the race, while others struggled from the beginning. One robot fell at the starting line and lay flat for a few minutes before getting up and taking off. One crashed into a railing after running a few metres, causing its human operator to fall over.

Although humanoid robots have made appearances at marathons in China over the past year, this is the first time they have raced alongside humans.

China is hoping that investment in frontier industries like robotics can help create new engines of economic growth. Some analysts, though, question whether having robots enter marathons is a reliable indicator of their industrial potential.

Alan Fern, professor of computer science, artificial intelligence and robotics at Oregon State University, said contrary to claims from Beijing officials that such a race requires "AI breakthroughs", the software enabling humanoid robots to run was developed and demonstrated more than five years ago.

"Chinese companies have really focused on showing off walking, running, dancing, and other feats of agility.

"Generally, these are interesting demonstrations, but they don't demonstrate much regarding the utility of useful work or any type of basic intelligence," Fern said.

Tang, the robotic centre's CTO, said: "A focus going forward for us will be industrial applications for humanoid robots so they can truly enter factories, business scenarios, and finally households."