



China, the world's first hub for humanoid robot training begins

Published on 10/04/2025

A groundbreaking development in the world of artificial intelligence and robotics is taking shape in Shanghai, where China has inaugurated the **world's first center for the training of heterogeneous humanoid robots**. The new **National and Local Joint Center for Innovation in Humanoid Robotics**, located in the Zhangjiang district, spans over 5,000 square meters and represents one of the most ambitious infrastructures ever built in the sector.

The center is expected to be fully operational by **July 2025**, but already over **one hundred humanoid robot prototypes**, from more than a dozen companies, are participating in an intensive training program. The goal is twofold: on one hand, to create a **large shared database** to improve machine learning, and on the other, to stimulate collaboration between companies and researchers, overcoming the current technological fragmentation and promoting common standards.

A laboratory for evolving robots

The general director of the center, **Xu Bin**, explained that the infrastructure was designed to address some of the key challenges of humanoid robotics, such as the **lack of interoperability** between robots built by different manufacturers, often incompatible with each other due to different modules and designs. “We created this center to foster **large-scale data sharing**, in order to enhance the entire sector,” Xu stated in an interview with the [*Global Times*](#).

The revolutionary aspect of this hub is not just the size or the number of robots involved, but especially the **learning method** adopted. The robots are trained through **fundamental motor activities**, defined as “atomic skills,” which include actions like **grasping, picking up, placing**, and **carrying objects**. Each movement is recorded and analyzed with extreme precision thanks to the sensors integrated into the robots, which generate essential data for their improvement.

Learning from human gestures

To fuel this process, the center employs a **team of human trainers** who perform repetitive actions hundreds of times a day. The robots observe, record, and try to replicate these gestures, thus developing increasingly refined motor skills. According to *The Paper*, even a small variation in the shape or angle of an object provides **unique data**, crucial for teaching robots to adapt to minimal but significant changes in the surrounding environment.

The director of the center's market systems, **Yang Zhengye**, explained that each step is documented in great detail. These data, fed into development models, enable robots to tackle **more complex tasks** autonomously. Currently, the center is capable of producing **between 20,000 and 30,000 data sets per day** and aims to exceed **50,000 daily sets** once fully operational, with the goal of collecting over **10 million real data entries by the end of 2025**.

Ten application scenarios and millions of data

The center has identified **ten main application scenarios**, ranging from **industry** to **domestic services**, including **tourism, healthcare**, and **maintenance in hazardous environments**. Each scenario is divided into a series of **specific sub-tasks**, such as folding clothes, assembling components, tidying objects, or cleaning industrial machinery. The aim is to

train robots not only to perform simple functions but also to solve complex problems in real situations, learning to react flexibly.

A long-term strategic goal of the center is the creation of a **data exchange platform** among robot developers, allowing the sharing of information related to specific tasks – such as the use of household appliances or healthcare assistance – thus avoiding duplication of efforts and accelerating technological innovation.

With this initiative, China consolidates its position as a **global leader in the field of intelligent robotics**, paving the way for a future where humanoid robots can be integrated into numerous aspects of daily and work life.

News link: <https://www.globaltimes.cn/>