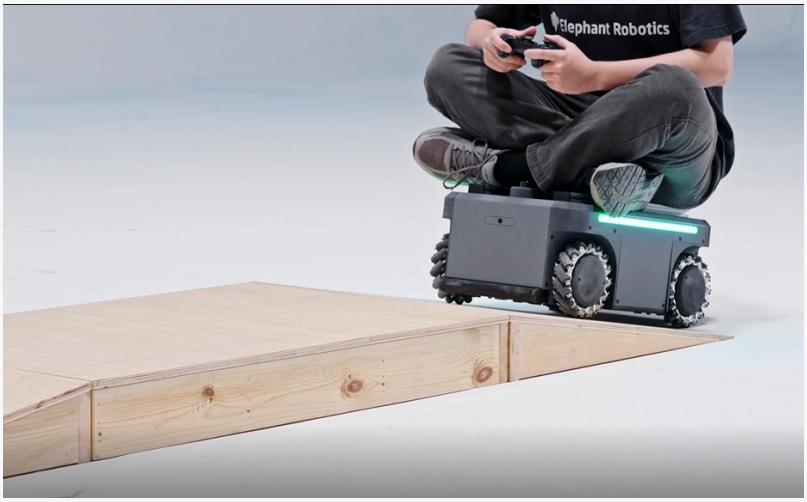
Elephant Robotics Unveils myAGV Pro: A Compound Mobile Robot Solution with Embodied AI for Logistics and Home Automation

Elephant Robotics unveils myAGV Pro, an omnidirectional AGV designed for warehouse logistics, embodied AI research and smart home automation applications.

SHENZHEN, GUANGDONG, CHINA, July 4, 2025 /EINPresswire.com/ -- Elephant Robotics is thrilled to announce the launch of the myAGV Pro, an advanced omnidirectional Automated Guided Vehicle (AGV) that excels in multi-target environment detection, speech and semantic recognition, and various AI applications. This powerful robot vehicle serves as a versatile mobile robot solution for researchers, developers, and educators across multiple sectors, including warehouse logistics, academic research, smart home services, prototyping, and robotics competitions. The myAGV Pro is available in 2 versions: the Mecanum Wheel Basic Version and the Vision-Navigation Version. Designed with modularity in mind, it offers flexibility for diverse customization needs. Users can choose from optional 4 components, including the Jetson Orin Nano onboard or external controllers, 2D/3D camera modules, 2D/3D high-precision LiDAR, and an auto-recharging module.

High-Performance Mobility with Smart Safety Design
Equipped with a integrated high-performance quasi-direct drive module, the myAGV Pro boasts



a compact, lightweight design that enhances motion efficiency and reliability while minimizing maintenance costs. The robust motor allows for speeds up to 1.5 m/s, complemented by a standard swing-arm independent suspension system, making it an economically smart choice for users striving for operational excellence. Additionally, the vehicle features LED lights that not only improves the sleek and technological aesthetics of the myAGV Pro but also serves a practical purpose by improving the visibility of its working status. Its industrial-grade safety bumper, combined with human body recognition and dynamic obstacle avoidance, ensures enhanced protection in complex environments, enabling safe operation even on 10° slopes.

Enhanced User Experience with Optional Accessories

The myAGV Pro features a highly modular hardware architecture, allowing users to customize core components based on specific application needs. The Mecanum Wheel Basic Version offers 2 wheel configurations: mecanum wheel omnidirectional tires or driven and caster wheels, giving users flexible choices based on their needs. The driven and caster wheel setup enables differential steering, offering lower control complexity and cost—making it a cost-effective option for basic mobile robot applications. In contrast, the mecanum wheels support full omnidirectional movement, allowing the AGV to move seamlessly in any direction with greater agility and a broader range of motion. The Vision-Navigation Version expands its capabilities with a wide array of optional accessories. When integrated with the Gemini 2 3D camera, which is engineered for high-resolution depth imaging, the system supports advanced features such as 2D/3D SLAM mapping, navigation, and precise localization. This makes the robot vehicle an ideal platform for users exploring machine vision, autonomous robotics, and deep learning applications. With optional 2D/3D 360° LiDAR, the myAGV Pro achieves enhanced spatial awareness and maneuverability, making it well-suited for dynamic and complex environments. Its modularity, intelligent perception, and adaptability make it a powerful and versatile solution across a wide range of industries—from smart logistics and automation, education to AI research and deep learning applications in robotics.

Exceptional AI Performance with Open-Source Ecosystem

Powered by the NVIDIA Jetson Orin Nano, the myAGV Pro delivers exceptional AI computing power and real-time inference capabilities. It supports simultaneous multi-object recognition, voice interaction, SLAM mapping, and more—all while running on Ubuntu 22.04 and ROS2 Humble. The robot integrates seamlessly with simulation tools such as RViz and Gazebo, and supports mainstream 3D SLAM algorithms including Gmapping, Cartographer, and RTAB-Map.

Designed for flexibility and advanced development, this robot vehicle offers fully open support for Python, C++, ROS2, and RS232 serial communication, empowering users to bypass complex environment setups and accelerate the development of tasks ranging from high-precision navigation to multi-robot coordination. At the front of the myAGV Pro, a built-in camera enables real-time object detection, image recognition, and precise positioning. On the rear, the platform offers a wide range of interfaces—including IO, HDMI, USB 3.0, USB-C serial port, and Ethernet—providing robust expandability for diverse development needs. For instance, users can utilize the IO interface to connect external sensors, transforming the robot into a mobile detection platform and enabling exploration of sensor integration and multi-sensor fusion technologies.

User-Friendly Control and Efficient Endurance

The myAGV Pro supports both joystick and keyboard dual-mode control and offers plug-and-play compatibility with standard game controllers. Its built-in visual user interface provides real-time video feed and status monitoring, making command execution and system oversight intuitive and efficient. Powered by a safe and reliable LiFePO4 battery, the mobile robot can operate continuously for up to 6 hours under no-load conditions. It supports quick-swap spare batteries for minimal downtime and features an intelligent auto-charging function, enabling 24/7 unattended operation with simplified maintenance.

Diverse Application Scenarios

With a payload capacity of 50 kg, the myAGV Pro offers seamless integration with 4 types of Elephant Robotics' robotic arms, including 6 DOF collaborative robot arms, myCobot 320 Series, myCobot Pro 630, myArm M750 and 7 DOF robotic arm Mercury A1. This flexibility allows it to form compound mobile robotic systems capable of advanced tasks such as Embodied Intelligence training and automated operations in fixed scenarios. Designed to support 3D machine vision and AI deep learning applications, the myAGV Pro opens new possibilities for research, prototyping, and robotics competitions. Users can leverage its capabilities for reinforcement learning data collection, grasp-and-load policy validation, and even simulated household tasks like dirty laundry handling, enabling the creation of multimodal training datasets with both tactile and visual feedback. With its expandable architecture, high-level control precision, and advanced navigation systems, the myAGV Pro is ideally suited for applications in warehouse logistics, academic research, smart home services, and competitive robotics.

The launch of the myAGV Pro marks a significant leap forward in mobile robotics, addressing the growing demands of researchers, educators, and developers in today’s AI-driven landscape. With its modular architecture, powerful hardware, and advanced AI capabilities, the myAGV Pro exemplifies Elephant Robotics’ mission to make intelligent robotics more accessible and impactful across real-world applications. As industries and academic institutions increasingly turn to flexible, autonomous solutions, the myAGV Pro stands ready to become a foundational tool in the next wave of robotics innovation.

Marketing & Sales team
Elephant Robotics
+86 181 2384 1923
email us here
Visit us on social media:
LinkedIn
Instagram
Facebook
YouTube
TikTok
X
Other
