

U Power launches AI-based autonomous battery-swapping vehicle

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U Power's new vehicle integrates autonomous driving and battery swapping, aiming for sustainable logistics and slashing operating costs by over 46%



Source: Getty Images/ Chesky_W

On Dec. 11, U Power Ltd., a leading provider of comprehensive EV battery power solutions, announced the launch and road testing of its pioneering AI technology-based autonomous unmanned battery-swapping logistics vehicle. This development marks a significant step in U Power's effort to offer a complete electrification strategy that supports sustainable logistics operations.

This strategy encompasses the full spectrum of autonomous battery swapping and self-driving functionalities for long-haul, regional and last-mile delivery scenarios. According to Jia Li, the founder and CEO of U Power, this innovation addresses the escalating demand for continuous, high-intensity operation of last-mile logistics delivery vehicles by integrating autonomous driving technology with UOTTA's automated battery-swapping system.

This integration facilitates fully automated, unmanned operations, overcoming the limitations of existing autonomous logistics vehicles in the market that rely on manual plug-in charging.

The system developed by U Power distinguishes itself by utilizing UOTTA's battery-swapping technology combined with AI, enabling self-adaptive autonomous battery-swap station matching. This integration achieves the automation of electric vehicle battery-swap stations, leading to the world's first fully autonomous new-energy vehicle operating solution.

The AI algorithm system employed in these vehicles is based on Convolutional Neural Network (CNN) architecture and is capable of processing multisensor data streams for real-time path planning and decision-making. This enhances the vehicles' response capabilities to unforeseen road conditions and allows integration with various logistics enterprises and park systems through its data interface and cloud platform, thereby significantly boosting transportation efficiency.

Li highlighted the potential market for autonomous logistics vehicles equipped with self-operating battery-swap capability, targeting logistics and industrial parks. The adaptation of automated green logistics systems, driven by autonomous vehicles, is essential for the low-carbon economy and the development needs of the industrial internet and lighthouse factories. This technological breakthrough can slash green logistics operating costs by over 46%, opening up a global market opportunity worth hundreds of billions of dollars.

U Power has already engaged with major logistics companies across various markets, including Hong Kong, Mexico, Peru and Portugal, to promote the application of these groundbreaking solutions. By fostering continuous technological innovation and market expansion, U Power aims to fulfill the green logistics transportation requirements of numerous industry clients, thereby supporting the momentum for low-carbon sustainable development.

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