

Optimised parcel sorting maximises electric vehicle delivery services

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In all aspects of life, consumers are looking for ways to reduce their carbon footprint. The logistics sector is reacting, providing cleaner ways of getting parcels to people. Consequently, more postal services, e-commerce giants and delivery companies are switching to electric vans. However, sustainability can't come at the cost of lower service levels, which is easier said than done when vehicle range and charging times are considered.

However, this low emission approach to delivery can be supported with a futuristic solution. Flexible parcel sorting using Prime Vision robots allows operators to optimise delivery routes and maximise availability, increasing the effectiveness of an electric van fleet.

The considerations of electric delivery

It would be no overstatement to say that diesel vans are the backbone of last mile logistics, but their time is coming to an end. Air quality legislation in cities to reduce Nitrogen Oxide emissions, the wider electrification of the automotive sector and public sentiment will ensure that internal combustion will be replaced by electric over the coming years. While this is good news for the environment, it presents challenges to logistics companies.

As much as the technology is rapidly progressing, electric vans are still hamstrung by limited range and long charging times. While less of a disadvantage in passenger

cars, for logistics companies trying to meet high demand and customer expectation, these factors must be considered.

Most electric vans on the market offer a quoted range of around 200 miles, but fully loaded with 100 to 200 parcels in real word conditions, this will shrink. Consequently, a reduced number of addresses can be visited by drivers on each trip. Charge times also slow down delivery, with vehicles immobile for either tens of minutes or many hours depending on available infrastructure. Expectations regarding speed of delivery are at an all-time high, so businesses need to be smart to avoid these limitations affecting service level and customer satisfaction.

A futuristic sorting solution for modern trends

A common trend in last-mile logistics is to build flexible, small scale, local sorting operations closer to customer, reducing delivery mileage and costs. This is equally beneficial for electric vans; a local distribution centre allows available vehicle range to be used more effectively. These smaller, often temporary facilities are unsuitable for the large static sortation machines and conveyors that define larger warehouses. Instead, automation experts such as Prime Vision are providing businesses with robots to efficiently move parcels to the correct delivery van and destination.

But how can robots actively contribute to sustainable methods of delivery? Robots are by their nature, incredibly flexible. Using onboard light detection and ranging (LIDAR) for guidance, robots can transport any parcel to and from any defined area in a facility, choosing the correct destination based on barcode information. This enables more complex sorting operations than static infrastructure, allowing businesses to actively optimise delivery routes and maximise the potential of electric vehicles.

Robots take charge

Using robots, parcels can be sorted to specific delivery drivers and routes. This means parcels with addresses in close proximity to each other can be grouped

together, so individual drivers can deliver more while travelling a shorter route. Similarly, parcels with no next day delivery expectation destined for addresses in faraway or rural areas can be combined and dropped off together, reducing the frequency of long trips. These are all excellent ways to extend the effective range of an electric van, packing in as many deliveries as possible before recharging is required.

On the subject of charging, robots can help here too. The way that businesses ensure service coverage while vehicles recharge is to always have a fully charged van ready to step in when another returns. The flexibility of robots allows sorting operations to be tailored ad hoc around charging times, with parcels sent to the vehicles that are fully charged or held back until another assigned to a particular route is ready. With robots, businesses can mitigate the impact of charging times on the consistency of delivery.

Delivering low emissions

Prime Vision offers specialist expertise for implementing robots in localised sorting centres. As well as providing the training to familiarise workers with the technology and build confidence, it can provide fully functional frameworks tailored to the specific needs of any logistics operation. This means that the unique demands of delivery by electric vehicles can be accommodated efficiently, ensuring a low emission service is better for both customer and environment.

More from Prime Vision - <https://primevision.com/optimized-parcel-sorting-maximizes-electric-vehicle-delivery-services/>

Image captions:



Image 1: Prime Vision offers specialist expertise for implementing robots in localised sorting centres.



Image 2: Using robots, parcels with addresses in close proximity to each other can be grouped together, so individual drivers can deliver more while travelling a shorter route. (Source: shutterstock_216667807)



Image 3: The flexibility of robots allows sorting operations to be tailored ad hoc around electric van charging times. (Source: shutterstock_1916855381)

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About Prime Vision

Prime Vision is a global leader in computer vision integration and robotics for logistics and e-commerce. As an award-winning company, Prime Vision designs and integrates solutions using the latest recognition, identification, and robotics techniques to optimize the automation of sorting processes.

Headquartered in Delft, The Netherlands, more than 170 experts provide comprehensive market and domain knowledge to digital companies around the world.

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