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LAST-MILE DELIVERY: Solutions to Trucking's Biggest Challenge

With the growth of e-commerce, last-mile delivery has been a growth area for commercial fleets, but also presents challenges that include growing customer expectations and more frequent, smaller, less cost-effective deliveries. There are several solutions available today and on the horizon that will help fleets meet these challenges and remain profitable.

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With an ever-growing number of consumers turning to the internet to purchase an ever-increasing number of goods of all shapes and sizes, there is an equally expanding need to understand and improve last-mile delivery options.

As it stands, e-commerce makes up about 30% of the U.S. parcel and 7% of the third-party logistics (3PL) markets[1]. Increasingly, online purchases include large, bulky items. Surveys indicate that about 37% of consumers plan to make a purchase of an appliance online[2]. Overall, no matter the types of goods, retail is now being driven by online sales with growth of 14.3% in 2018, accounting for 51.9% of all sales gains[3].

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Since many of these items are being shipped from retail warehouses and distribution centers — and not directly from the manufacturer — this upswing in online sales is creating opportunities and challenges for last-mile delivery operations.

For example, as online shopping has increased, so have customer expectations related to their deliveries[4]:

- 61% of consumers want faster deliveries.
- 51% want real-time visibility into the status of their orders.
- 65% want greater flexibility for their deliveries.

The challenges trucking operations face related to last-mile deliveries aren't going away. In fact, with online commerce increasingly poised to eclipse traditional brick-and-mortar retail operations, it's crucial to take steps to improve last-mile operations sooner rather than later.

Fueling Last-Mile Costs

There are several factors fueling the rise of last-mile costs, such as the boom in "free shipping," which means retailers and logistics providers must absorb the cost for deliveries. Also, because of the nature of last-mile deliveries, more frequent, shorter trips along with the number of miles driven are trending up, resulting in rising fuel and maintenance costs.

Unlike brick and mortar purchases, online returns are more frequent, averaging 13% to 30% of purchases compared to 8% for in-store purchases[5]. Reverse logistics need to be in place for returning items — since a truck will likely have to be dispatched either to the customer's home or to a centralized return center to pick up the returned item. Online returns add to the costs related to deliveries, since it means an extra, non-productive trip, personnel, and a vehicle (and fuel) to pick up the returned items.

Added pressure is also being applied from retail companies who are continuing to require reduced delivery windows and will fine suppliers if they can't fulfill a one- to two-day delivery window. Fleets are racing the clock while having to contend with weather, traffic congestion, and warehouse delays.

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Further, with the expansion into so-called “white-glove” operations, logistics and delivery providers are offering additional services beyond simple delivery. While the delivery may be “free,” costs related to these white-glove deliveries are higher, since many of the services require additional skills, such as appliance installation, or additional effort, such as carting the old item away.

Because of these factors, businesses are looking for ongoing process improvements and a greater reliance on technology to keep costs down.

Solving the Last-Mile Riddle

A growing part of solving the last-mile riddle includes decentralizing distribution by bringing inventory closer to consumers and shortening the length of delivery routes. The number of last-mile fulfillment centers is growing, representing 73% of the industrial real-estate market in 2017[5], a 15% jump from the previous year[5].

In addition, businesses are deploying numerous technologies to improve the costs and efficiency of last-mile deliveries, including:

Routing optimization. Even when inventory has a shorter delivery route, optimizing the route is crucial to fulfilling customer expectations while remaining profitable. Routing with a fleet management or telematics solution can save both time and cut costs related to small volume deliveries by minimizing time spent manually planning driver routes. The technology also uses algorithms that take into account traffic congestion, street signals, road restrictions — even the number of left turns required — so that multiple pickups and deliveries can be scheduled in the shortest amount of time with the fewest number of miles driven[6].

Digital tracking and visibility. Perhaps the biggest factor related to solving the challenges of the last mile is growing customer expectations, which have added significant cost to the order fulfillment process. With many small-volume deliveries to large numbers of locations in a short amount of time, it’s estimated that a $45 item may cost $15 for a two-man team to deliver[7].

Digital technologies such as IOT sensors in addition to barcodes can provide visibility into the delivery process can help control costs by building efficiency into the last-mile equation. Crucially, customers will receive updates and delivery ETAs, which can help keep them stay current on the status of their order and avoid missed deliveries and repeated attempts, that keep adding to fleet-related cost.

Electronic proof of delivery (ePOD). In addition, drivers can be paired with ePOD technology, allowing customers and dispatch teams to track packages at multiple points in real time. ePOD technology helps reduce operational costs by eliminating manual data-entry processes to more accurately input loading, delivery, and collection data in real time.

Last-Mile Solutions: Smart Answers to Tough Problems

At Panasonic, we listen, learn, and innovate to solve your toughest challenges.

- Our solutions combine TOUGHBOOK hardware, application software, deployment services and accessories.
- Your deployment is supported by an ecosystem of Panasonic experts and third-party partners providing consulting, software engineering, and operating system support.
- Panasonic TOUGHBOOK mobile computers are durable, reliable, and designed to stand up to rain, heat, cold, and dirt, whether it’s scanning a package or capturing a proof of delivery signature.
- The devices can be used for a wide range of last-mile delivery applications, including barcode scanning and electronic proof of delivery (ePOD) solutions.
- With 4G LTE built in, drivers have anytime access to critical data helping them to work more efficiently and to serve their customers no matter where they are.

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It provides every member of the team from: the back office-to-dispatch-to-customer service agents with a detailed audit trail of goods and assets in transit. This enables better communication with customers and gives those directly involved with the last-mile delivery the ability to proactively react to any unplanned events. It also helps to continuously identify inefficiencies, expedite delivery processes, and reduce operational costs.

Looking Ahead

While today's existing technology will help meet the challenge of last-mile deliveries, future technologies promise to do even more.

- Increasingly sophisticated, self-service order options will give consumers — and delivery fleets — even greater visibility into the delivery process, including online order management, text updates, and voice-activated connectivity through Google Home and Amazon Echo[8].
- Alternative fuel vehicles and transportation options, including bicycles, will provide more flexibility to meet deliveries in dense urban areas[9].
- A host of emerging technologies, such as autonomous vehicles, will become commonplace, evolving in concert with consumer demands for greater order visibility and delivery options, from at-home deliveries to centralized storage lockers[5, 6, 10, 11].
- Drones and robots may be the final step in the evolution of last-mile delivery in the coming decades with many of these technologies currently in development and testing in real-world conditions[5, 6, 12].

The Answer: Endless Innovation

As with any complex, variable business environment, there is no single "silver-bullet" solution to the last-mile delivery challenge. Instead, the answer lies in combining a range of solutions, working sometimes in concert and sometimes in parallel to get a package to a customer as efficiently and cost-effectively as possible.

What they all have in common is that they will be driven by customer expectations, which will continue to grow.

This means that the answer to last-mile deliveries will likely be an ever-evolving landscape of new techniques and innovations that work to reduce operational costs and enhance the customer experience.

For more information about Panasonic rugged mobile computers:

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