



## A faster delivery future

How transportation and logistics providers are adjusting to the speed of e-commerce





## Innovative providers are modernizing for current and future growth

Faster, more personalized delivery is expected in today's e-commerce-driven, omnichannel-fulfillment economy. Logistics and delivery service providers that are adapting by overhauling their workflows with technology upgrades are enjoying substantial sales growth and expect to sustain it. This conclusion emerged from a Zebra Technologies 2017 Global Omnichannel Logistics survey of logistics and delivery service executives who shared insight into their delivery approaches, services and technologies.

While implementing emerging technologies like drones can boost delivery speed, this paper recommends that the first step is building a solid foundation for capturing data on goods, assets, processes and people. Data and analysis enable more dynamic decision making that's necessary in an increasingly competitive and complex delivery environment. Then, emerging technologies can enhance performance by boosting transport speed and data analysis capability.

### Innovators setting the pace for delivery performance



**84%** of these top-performing logistics and delivery service providers offer one-hour delivery or plan to do so within the next year.



**44%** of them believe that 3 hours will be the expected same-day delivery timeframe in coming years.



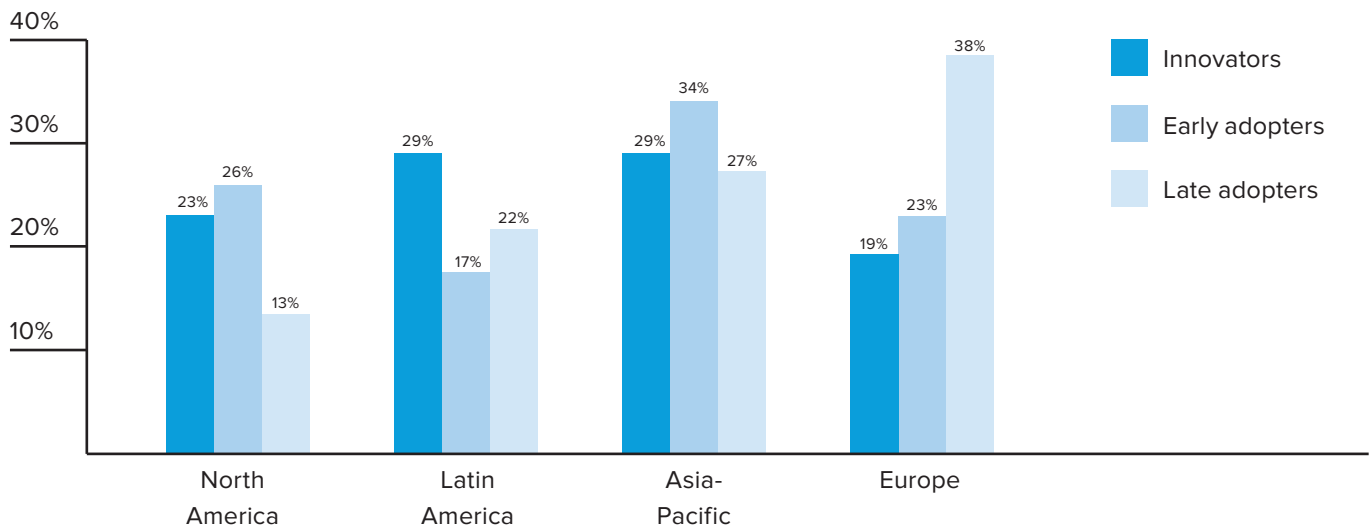
**85%** will have the capability to prevent failed first attempts by delivering to unmanned lockers or storage units within the next year.



## Survey sample by the numbers

The global survey of approximately 500 executives identified three respondent segments: Innovators, Early Adopters and Late Adopters. The segments are based on current and future investment levels in omnichannel-level logistics that correlate to current and anticipated sales growth<sup>1</sup>.

### Respondent profile: by region



<sup>1</sup>Respondent profile segments, aggregated globally:

**Innovators:** Total sample 173, operating at omnichannel level, primary delivery speed less than 1 day, revenue growth above 6% this year and next year

**Early Adopters:** Total sample 201, operating at or near omnichannel level, primary delivery speed same-day to 2 days, revenue growth this year above 1% and above 6% next year

**Late Adopters:** Total sample 125, starting to operate at or near omnichannel level, primary delivery speed next-day to 3 days, operating profitably this year and expect revenue growth above 1% next year

## Convenience of e-commerce raises delivery speed expectations

The popularity of e-commerce is growing from one year to the next and making profound impacts on consumers' delivery expectations. Global e-commerce retail sales are expected to jump from \$2.29 trillion, 10.1% of total retail sales, to \$4.48 trillion, more than 16% of total retail sales, between 2017 and 2021<sup>2</sup>.

While consumers increasingly demand the convenience of ordering merchandise with a mouse click or screen tap from any location, they're not willing to sacrifice much, if any, of the typical merchandise possession immediacy of in-store shopping. So efficient delivery is taking on greater importance. The most popular emerging consumer alternatives to traditional shopping at brick-and-mortar stores invariably involve delivery<sup>3</sup>.



Buy online, ship to home will surpass traditional buy-in-store, take-home shopping as the method shoppers plan to increase use of the most.



Consumers plan to decrease their use of click and collect the most of all alternative methods over the next 5 years at 37%—the same percentage that plans to decrease the traditional buy-in-store, take-home shopping method.



Other order-fulfillment methods that shoppers plan to increase use of in the next 5 years include buy in store, ship to home and ship to an alternative location such as a locker or even their car's trunk.

Moreover, consumers want both convenient ordering and the ability to take quick possession of merchandise. Next or same-day is the delivery speed 66% of respondents want and 67% are willing to pay more for it<sup>3</sup>.

<sup>2</sup>Worldwide Retail and E-Commerce Sales: eMarketer's Estimates for 2016–2021

<sup>3</sup>The New Retail Mandate, 2018 Shopper Vision Study, Zebra Technologies



## Preparing operations for same-day delivery

Innovators plan to invest in disruptive emerging technologies that will increase delivery efficiency. They're embracing new delivery scenarios that provide consumers with greater convenience, and they're taking the lead in accommodating same-day delivery.

### Transportation getting a boost

While 97% of Innovators still rely on a dedicated delivery person, they plan to use new automated transportation technologies and collaborative methods to move goods and boost delivery efficiency.

Because of lower per-delivery costs, less rerouting and customer preferences, more than one-third of Innovators (36%) currently use **drones**, compared with 17% of Early Adopters and 8% of Late Adopters.

**Autonomous ground vehicles (AGVs)** are another popular emerging delivery technology that reduce rerouting, increase speed and lower per-delivery costs. Fifty-six percent of Innovators currently use them vs. 34% of Early Adopters and 20% of Late Adopters.

**Semi-autonomous ground vehicles** are being implemented because of customer preference, as well as to improve per-delivery costs, rerouting and flexibility. They are used by 56% of Innovators, compared with 29% of early adopters and 21% of Late Adopters.

85% of Innovators are also using or plan to use **crowdsourcing**—a model that offers partners delivery completion opportunities—which is 12% more than Early Adopters and 22% more than Late Adopters. Customer preferences, lower per-delivery costs, less rerouting and greater flexibility make this attractive.

### Primary same-day delivery timeframe

An indication of Innovators' growing awareness of the need for delivery speed is the fact that 44% believe that 3 hours will be the primary same-day delivery timeframe in coming years and 16% believe it will be 1 hour. The primary delivery speed will be 4 hours, according to 34% of Late Adopters, 17% of whom believe it will be 2 hours.



## More consumer-centric delivery options

Innovators are also adding more delivery options and making faster delivery time commitments.

**One-hour delivery:** Currently, 42% of Innovators offer this service and 42% plan to offer it within the next year. Late Adopters trail, with only 11% offering it and 29% planning to within the next year.

**Unmanned lockers:** This self-service option prevents failed first delivery attempts, estimated to occur up to 10% of the time in U.S. cities<sup>4</sup>. 85% of Innovators will start using them within the next year to be able to speed up delivery. But it will take up to three years until 85% of Late Adopters embrace this concept.

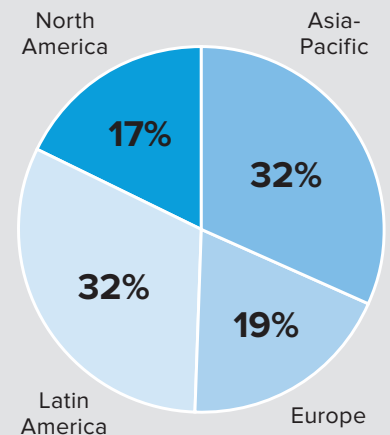
**Post-order change allowances:** Within the next year, 90% of Innovators will allow customers to modify delivery information after order placement. It will take up to three years for a similar percentage of Late Adopters to offer this option.

**Guaranteed delivery window:** 87% of Innovators are using or plan to invest in route optimization and scheduling within the next year. And 85% of Innovators offer a guaranteed delivery window, or plan to within the next year.

**Same-day delivery to a specific address:** More Innovators (87%) than Late Adopters (76%) currently offer or plan to offer this service within the next year.

## Innovators trying to reduce failed first delivery attempts

Globally, 85% of Innovators will be able to address failed first attempts by delivering to unmanned lockers or storage units within next year. Use of this delivery method is most popular in the Asia-Pacific and Latin America regions.



<sup>4</sup>[University of Washington Urban Freight Lab Final 50 Feet Research Project](#)



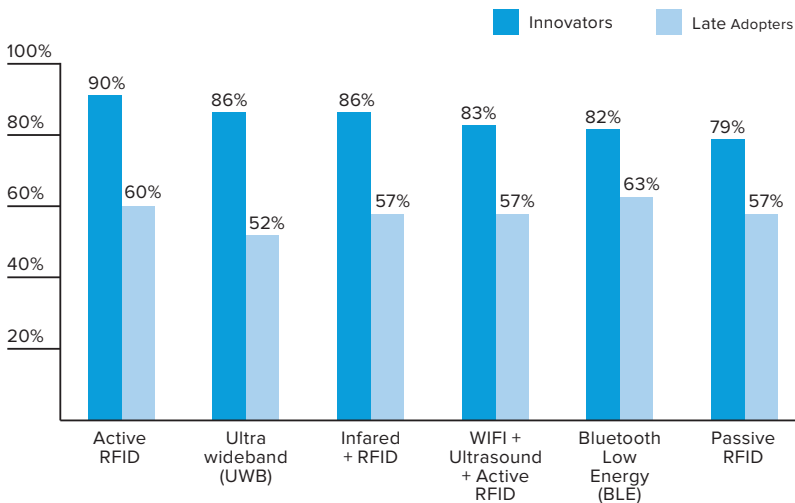
## Warehouse operations get an overhaul, too

Consumers' e-commerce-fueled demands for convenience are also forcing logistics executives to increase efficiency in the warehouse to stay competitive.

### Location technologies and radio-frequency identification (RFID)

Location technologies and RFID, which enable real-time inventory and asset visibility as well as reduce manual barcode scanning, are also commonly in use in Innovators' operations, or will be in the next year.

### Combined current use and impending adoption



### Innovators' top 3 omnichannel fulfillment challenges:



Reducing backorders



Packing efficiency



Driver and labor recruitment

## Efficiency-enhancing omnichannel-fulfillment technologies

Numerous technologies enable delivery and logistics service providers to meet omnichannel-fulfillment requirements efficiently and, in some cases, overcome labor shortages. Some are used both for delivery of goods and for order fulfillment. Innovators are ahead of their peers in terms of using or planning to soon invest in these technologies, too.

To begin improving efficiency in the warehouse and address labor concerns, 42% to 51% of Innovators are currently investing in **autonomous vehicles**, which are driven by either humans or computer systems; **driverless vehicles**, which are controlled by computer systems entirely; and **drones**, which are operated manually using remote control or autonomously using geospatial navigation software. By comparison, less than 12% of Late Adopters are currently embracing these technologies. Many are beginning to use these technologies inside the four walls to make warehouse operations run more efficiently and experimenting with them for delivery use cases to prepare for regulatory approval.

Data and analytics systems and technologies support more dynamic decision-making based on critical information that impacts order-fulfillment and delivery performance, such as packing efficiency and real-time freight conditions. These technologies are a big part of Innovators' technology investment decisions also. **Sensors, RFID and intelligent labels, augmented reality, advanced and predictive analytics**, as well as **machine learning** and **business algorithms** are technologies that 80% to 90% of Innovators are using or plan to use in the next year.

	<i>Percentage choosing 9 or 10 on a 1-10 scale of disruption</i>	
<b>Technology</b>	<b>Innovators</b>	<b>Late Adopters</b>
Inventory and network identification	49%	23%
Cloud computing and storage	52%	30%
Advanced and predictive analytics	57%	31%
Business algorithms	57%	31%

### Innovators aware of emerging technologies' disruptive potential

The survey results reveal that Innovators are mindful that many emerging technologies are disrupting delivery processes by boosting speed. They anticipate that these technologies will continue to disrupt delivery in coming years.



## First priority: building a solid data-powered logistics foundation

Zebra's survey results indicate that logistics and delivery service providers are adapting to the disruption the on-demand economy is causing. For example, at least 90% of Late Adopters are using or plan to implement technologies that enable omnichannel logistics and delivery management within the next three years. These include demand forecasting, electronic interfaces with carriers, labor and workforce management, transport management systems (TMS), route optimization and monitoring, as well as many other industry-specific, foundational technologies.

### A front-line foundation

While many logistics and delivery services providers are investing in the technologies covered in this paper, on their own these technologies won't meet the needs of today's shopper, whose preferences are largely driven by the convenience of e-commerce. Running agile, customer-centric operations requires visible, meaningful data that guide dynamic logistical decision making.

The right place for a data-powered foundation is at the front line or "edge" of the enterprise. Top-down management cannot effectively handle the complexity and speed of the on-demand economy. Enterprise mobile devices enable front-line workers to capture critical data when they handle goods at or near customer or business partner transactions—when receiving or loading shipments, or at the point of sale, for example. Workers empowered with edge foundation technology can then make informed, data-driven business decisions and maximize impacts on operational efficiency.

That's what's happening at Aunis Messagerie, a logistics company that delivers goods locally for other transport companies, express haulers and national and regional couriers in southwest France. Aunis Messagerie recently equipped all of its drivers with barcode scanner-equipped handheld mobile enterprise computers to track shipments at the edge: the dockside and delivery confirmation. As a result, the company is enjoying major improvements in parcel tracking and tracing, higher driver productivity—and a rapid return on investment<sup>5</sup>.

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<sup>5</sup>[\*Specialist Haulier Relies on Zebra Technologies for Last Mile Traceability\*](#)





## Awareness of need to invest in a technology foundation

Innovators and Late Adopters alike are aware of the fundamental e-commerce-driven shift taking place in today's economy and eventually plan to invest in this data-capture foundation.

For example, a clear majority of Late Adopters are using or plan to invest in the following edge foundation technologies within the next year:



To not only survive but create sustainable competitive advantages, delivery providers must develop a strategy for capturing data from goods and assets while empowering their workers with actionable information to make optimal real-time business decisions at the edge of the enterprise. Later, emerging technologies can add more robust analytical capabilities, and more fulfillment and delivery speed to the operation.



## About Zebra Technologies

Zebra Technologies provides transportation and logistics businesses with the data-powered foundation they need to meet the delivery challenges of today's on-demand economy. Zebra's hardware, software, supplies and services give workers at the edge of the enterprise unparalleled visibility into goods, assets and people so they can work better, faster and smarter.

Meet the demands of today's e-commerce-driven economy with a strong data-collection foundation. Start developing your strategy by visiting [www.zebra.com/delivery](http://www.zebra.com/delivery)



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