TECHNOLOGY MAKES IT HAPPEN

When customers want it NOW, technology makes it click by delivering increased visibility, optimized loads and routes, data-sharing, and digitized documents.

By Karen Kroll

The pressure to move shipments more rapidly continues to accelerate. For most companies of any size, technology is essential to meeting customers' "I want it now" expectations.

Over the past few years, nearly everyone has become used to clicking a "place order" button and seeing the items they purchased arrive within a day or two—if not hours. And when consumers learn the items they want won't arrive as quickly as they'd like, they don't hesitate to act: 40% use comparison shopping sites to check for availability and 29% shift to a new retail site to access the product they want, according to a survey by consulting firm PwC (*see chart*).

It's not only consumers who expect rapid delivery. Many business professionals, accustomed to quickly receiving the items they purchase at home, expect similar speediness while on the job.

In an ideal world, shippers could meet customers' demands for rapid delivery without incurring extra costs to expedite shipments. While the world isn't ideal, however, technology can help shippers meet tightening delivery time frames. Among other capabilities, these solutions boost visibility, efficiently match shippers and carriers, optimize routes and loads, enable data-sharing, and digitize documents. New delivery devices, like electric carts, also cut time from deliveries.

Here's a look at some of the new technologies in the expedited market.

A SINGLE INTELLIGENT PLATFORM

Nearly one million trucking companies are registered with the Federal Motor Carrier Safety Administration and more than 90% operate six or fewer trucks, according to the American Trucking Associations.

Shippers that want to streamline shipments need an intelligent transportation management platform that can work across multiple modes and provide live access to the breadth of the carrier market.

"Instant access to the market from a capacity standpoint and the ability to execute transactions allow shippers to be agile and move quickly," says Jared Wilson, senior vice president, customer operations, managed transportation, with logistics company Transportation Insight.

The quicker shippers can locate the carrier for each load, the quicker those shipments can begin their journeys.

DHL Express partnered with REEF Technology to pilot the use of four new low-power electric-assist e-Cargo Cycles for deliveries across Miami.

Moreover, this technology is now available, often through the cloud, to shippers of all sizes.

VISIBILITY TOOLS

While boosting visibility doesn't make trucks or planes move faster, it can streamline communication. In turn, that can speed decision-making, so companies can quickly determine how best to move shipments, including those already in transit.

Gaining visibility to shipments, particularly with global supply chains that involve numerous carriers and multiple product "touches", allows companies to optimize decisions and change course when needed, says Michael Tew, vice president of sales-supply chain at QAD, a provider of manufacturing and supply chain solutions.

In addition, real-time tracking and live ETA (estimated time of arrival) status helps customers and reduces back-and-forth, high-touch communication, says Kyle Humphries, pre-sales consultant with Rose Rocket, which offers transportation management solutions.

INTERNET-OF-THINGS

Internet-of-Things (IoT) solutions can work with tracking systems to enable real-time updates on inventory as shipments are in transit. IoT devices "eliminate the

SUPPLY CHAIN ISSUES DIRECTLY AFFECT CONSUMER BEHAVIORS

Even in the midst of supply chain disruption and inflationary pressure not seen in decades, consumer appetites for seamless shopping experiences have not diminished, finds a recent PwC survey.

Consumers empowered by technology are more likely to use comparison sites to seek product availability and shop across multiple retailers. However, with supply chain snarls and inflation ramping up prices and wait times for delivery—both online and in-store—consumers are switching between channels to find what they want. That could create new opportunities for companies ready to handle them.

How frequently have you taken any of the following actions as a result of supply chain issues?
(Showing answers only from respondents answering 'frequently' or 'almost always')

40%	**37%**	**37%**	**29%**	**29%**
Use more comparison sites to look for availability	Switch to buying products online	Shop at multiple different retailers to meet your needs	Switch to buying products in-store	Change the retail store/outlet you usually shop in to get the product you want

Source: PwC survey

BrightDrop developed the Trace eCart to reduce touches, errors, labor costs, and physical strain on the labor force. In an initial pilot, the Trace eCart enabled couriers to effectively handle 25% more packages per day.

waste of searching and locating specific inventory," says Scott Shaw, principal consultant, consumer products supply chain lead with Clarkston Consulting. The information IoT devices provide allows shippers to adjust plans when circumstances change.

LEVERAGING DATA

While visibility is essential, it's not enough. "You need to create a system that automatically reacts to data," says Daniel Sokolovsky, CEO and founder of Warp, which focuses on middle-mile logistics.

Consider a driver who learns—before starting their route–that a half-dozen pallets are delayed and that waiting for them means missing the window to unload at the next stop. With a system that leverages data, the driver likely will calculate it's best to go without the pallets, rather than continuing to add delays across the supply chain.

The driver might also shift to a smaller truck. They can communicate the changes to other parties in the supply chain, so they can also adjust.

LOAD AND ROUTE PLANNING SOLUTIONS

Both load and route planning software can speed shipments. Load building software enables efficient consolidation and loading of shipments and equipment, so they can quickly be on their way.

Once shipments are ready to hit the road, route optimization solutions that leverage artificial intelligence can help e-commerce companies address last-mile challenges while meeting customers' delivery expectations, says Mohit Sinha, chief business officer with Hwy Haul, which is building a digital freight platform that connects shippers and truckers. Both routing and load optimization solutions can be part of an in-house planning or logistics solution, or managed by carriers.

Planning software also can help shippers identify the transportation service that will most effectively move each parcel to its destination. For instance, it can help shippers determine whether they need to use less-than-truckload for a shipment, or to ship in larger quantities to leverage economies of scale.

MICRO-MOBILITY

Urban residents may soon see packages delivered on electric carts or electric-assist bikes. Along with cutting emissions, carts and bikes can boost last-mile efficiency, particularly in congested metropolitan areas, as many are small enough that they can travel on sidewalks and even inside buildings.

For example, the Trace eCart from BrightDrop, which offers a portfolio of electric vehicles, smart containers, and software to decarbonize last-mile deliveries and reduce congestion, can carry several hundred pounds of packages. Because the carts are secured, drivers don't need to worry about theft

PHOTO: LE MINH, PEXELS

Route planning software can help expedite shipments by generating the most efficient route for drivers and supporting scheduling and routing decisions. Most route planning solutions also optimize how drivers get to each location based on real-time traffic information.

Drone use is projected to grow over the next few years. Air logistics company Swoop Aero provides a technology platform for sustainable and scalable drone logistics. The solution enables two-way deliveries across multiple destinations, organizations, and providers.

if they need to leave them to enter a building. That can mean fewer trips into and outside a building to ensure the shipments remain safe.

The eCarts allowed FedEx Express couriers to increase package deliveries by 15% per hour in New York; in Toronto, FedEx couriers handled 25% more packages per day with the eCarts. "We find significant operational improvements," Hornyak says.

Also in this space, DHL has partnered with REEF Technology to deploy electric cargo cycles across Miami. The three-wheeled cycles are equipped with an accompanying cargo container and can pull up to 400 pounds.

For the Miami pilot, a DHL straight truck equipped with a customized trailer will carry up to nine cargo containers for the cycles. The containers are delivered to the REEF hub garages, where they're quickly connected to the cycles for last-mile inner-city deliveries.

The vehicles "significantly reduce the challenges associated with urban business deliveries, improving safety, productivity, and costs," says Greg Hewitt, U.S. CEO of DHL Express.

MOBILE APPS FOR DRIVERS

Mobile apps can reduce paperwork and errors—and thus, time—by enabling drivers to digitally sign and manage key documents. And by maintaining a digital log of arrival and departure times, these apps can offer shippers an accurate, unbiased view of their on-time deliveries, allowing them to address problems. For instance, the app may show that a piece of equipment fails often, causing delays, and should be replaced.

DRONES

Drones can leapfrog ground-based transportation barriers, such as traffic congestion, says Erik Peck, CEO and co-founder of Swoop Aero, an Australian drone logistics company. And by employing a hub-and-spoke model, drones allow organizations to centralize warehousing facilities, reducing operational expenses.

Peck might be expected to focus on drones' benefits, given his position. Yet, while the market for drone deliveries is in its infancy and faces numerous regulatory and other obstacles, it's expected to ramp up quickly. The global drone package delivery market, which generated $0.94 billion in 2021, is projected to reach $32.1 billion by 2031—a compound annual growth rate of 43.3%, according to Allied Market Research.

Even so, drones won't replace traditional transport models. "By augmenting traditional transportation methods, drones serve to increase the efficiency, impact, and reach of the network," Peck says, noting that drones can be deployed for high-cost routes and ad hoc deliveries.

SHARED TRANSPORTATION SOLUTIONS

Shared transportation refers to loading a trailer with three or four different shipments and then using load planning technology to build a route that efficiently moves them to their destinations, says Lawrence of Fox Logistics.

This sounds similar to less-than-truckload (LTL) shipments. With LTL, however, a shipment is picked up, taken to a local dock, and then offloaded, stored, and reloaded onto a truck heading to another terminal that's in the direction of the final destination. During the trip, the same shipment may be unloaded and reloaded at several terminals, increasing the likelihood of loss or damage.

With shared transportation, the shipment is loaded directly onto the truck that will make the final delivery. "Route planning software is key to making this work, as shipments need to be loaded in reverse order of the deliveries," says Lawrence.

That is, the last shipment must be in the nose of the trailer. "For shippers and carriers, it's a win/win," he adds.

ANALYSIS AND ARTIFICIAL INTELLIGENCE TOOLS

Myriad factors can lead to the need to expedite shipments: machine breakdowns, natural disasters, and human errors, to name a few. An effective business intelligence toolset

can offer value by identifying the "why" behind decisions to expedite, and show how to do better in the future, says Sam Polakoff, founder and chief executive with BrillDog, which offers supply chain solutions for small to mid-sized businesses.

When expedited shipping is needed because of a mistake somewhere else in the operation—say, the right inventory is not in the right place at the right time—artificial intelligence and business analytics can provide insight showing how the situation might be better handled going forward, Polakoff says.

DON'T FORGET PEOPLE

Even as technology becomes more critical to meeting delivery timeframes, the insight and experience employees can offer remain key.

For example, A. Duie Pyle, a transportation and logistics provider offering LTL service and extended coverage, is data driven and leverages a routing solution to plan deliveries, says John Luciani, chief operating officer of LTL solutions.

At the same time, given the company's diverse fleet and broad customer constraints, artificial intelligence sometimes fails to return a group of efficient routes that maximizes capacity while minimizing miles.

"When we have that scenario, we find that our driver's engagement helps to improve route density and reduce miles, while satisfying the customer's delivery constraints," Luciani says.

To really drive operational efficiency, team members need to understand the role they play and their impact on transportation. "Freight is a team sport, where most of the players are spread across multiple companies throughout the supply chain," Humphries says.

All stakeholders need to be kept in the loop on pertinent information. "When parts of the team are left in the dark, mistakes happen, frustration grows, and expedited transportation is next to impossible," he adds. ∎

GETTING THE MOST FROM TECHNOLOGY

While technology is essential to speed transportation, leveraging its benefits typically requires several changes. First is a paradigm shift. "People need to get out of the mindset that we can live how we lived for so many years before," says Mohit Sinha, chief business officer with Hwy Haul. Instead, executives need to consider the longer-term benefits of investing in technology that can drive improved performance and confer a competitive edge.
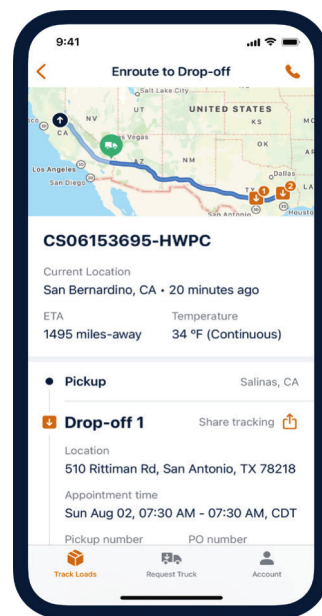
When working with freight providers, shippers should request information on the value-add tools and new features they bring to the table or plan to bring in the near future, says Kyle Humphries, pre-sales consultant, Rose Rocket. Transportation providers that still use spreadsheets are signaling they're not future-focused and that they value owning their own data over transparency, he says.

Load status software such as Hwy Haul enables real-time visibility.

While technology can streamline processes and enhance communication, the old axiom of "garbage in, garbage out" still applies, says Sam Polakoff of BrillDog. Before implementing new technology, shippers need to check that their data is accurate and up-to-date.

Increasingly, boosting efficiency requires a willingness to share data across organizations within a supply chain. Many remain concerned about the safety of shared information, just as they did before moving to cloud-based solutions. "The willingness to share data will require a similar mindset change," Sinha says.

That willingness appears to be gaining strength. If there's a bright side to the recent supply chain challenges, it's that they've shown how supply chains are under pressure. This realization is prompting supply chain leaders to collaborate more across the value chain, using tools like application programming interfaces (APIs), so all gain visibility.

Another way to ensure packages move to their destinations more quickly is to make sure they begin at an appropriate starting point. "The farther inventory is from customers, the less opportunity to expedite shipments without significant additional cost and manual intervention," Shaw says. Conversely, placing inventory close to anticipated demand boosts shippers' ability to quickly ship to customers. Given the ongoing growth in e-commerce, many companies will need to rethink their distribution networks.