



The meat-packing department at FreshDirect's new facility in the Bronx, New York. DAVID 'DEE' DELGADO FOR THE WALL STREET JOURNAL

Inside FreshDirect's Big Bet to Win the Home-Delivery Fight

Amazon, Kroger, Walmart and others are building high-tech distribution centers to move food faster and convince more customers to switch to digital shopping carts

By *Jennifer Smith*

July 18, 2018 5:30 a.m. ET

On a typical evening at online grocer FreshDirect LLC's highly automated distribution center in New York City, workers fillet, wrap and label individual orders of harpoon-caught swordfish and then push the packages on a serpentine system of conveyor belts that twists and turns for nine miles through the building.

Trucked in that day from Nova Scotia, the fish might spend 24 hours or less inside the warehouse before hitting the streets bound for homes from Connecticut to as far south as the Washington, D.C. suburbs.

"It takes us less than a day to get it down here from the boats, depending on when they are landing," David McInerney, a FreshDirect co-founder with the official title of chief food adventurer, said on a recent visit to the company's signature new facility in the Bronx, New York.

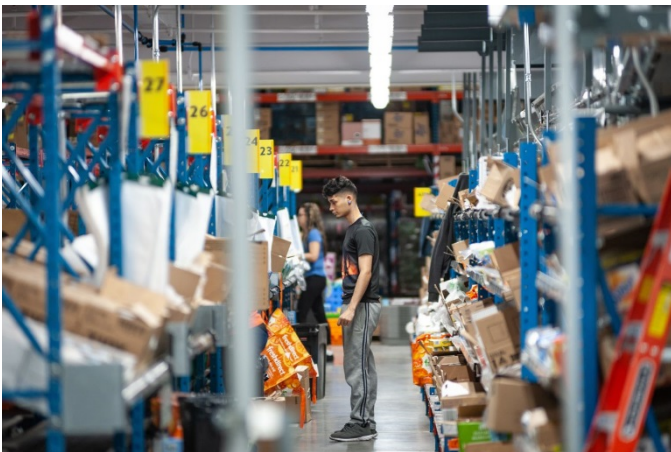
Designed to keep food fresh longer and move it faster, the 400,000 square-foot operation is the online grocer's multimillion-dollar bet on the fastest-growing sector in the grocery business. FreshDirect helped build the e-commerce home-delivery market, and now with [Amazon.com Inc.](#) AMZN -0.20% and big grocery chains like [Kroger Co.](#) piling on investments, [companies are jockeying](#) for position in a business that some believe is the future of supermarket sales.

FreshDirect launched its online-only service in 2002 in New York. Its green and orange trucks now provide next-day delivery to customers across the New York-New Jersey, Philadelphia and Washington, D.C., metropolitan areas, with plans to expand into Boston next. The private company says it generated between \$600 million and \$700 million in annual revenue in 2017.

It declined to disclose the cost of the new facility, which was financed with the help of a \$189 million investment round in 2016 led by J.P. Morgan Asset Management, direct funding and incentives from state and local governments.

Online sales remain a sliver of the more-than \$700 billion-plus U.S. grocery market. Market-research firm Kantar Worldpanel projects that U.S. e-commerce sales of food and alcohol will reach roughly \$40 billion by 2021, up from \$14.1 billion last year.

Some of the biggest names in retail want in.



Employees work in different warehouse zones to fulfill orders. PHOTOS: DAVID 'DEE' DELGADO FOR THE WALL STREET JOURNAL

Amazon, [Target Corp.](#) and other large companies [have invested hundreds of millions of dollars](#) to expand food delivery and build out their grocery e-commerce operations. Supermarket chain owner [Koninklijke Ahold DelhaizeNV's](#) Peapod unit, the longest-running online grocery service in the U.S., has expanded to 24 markets and is investing in technology to cut its handling and delivery costs.

[Walmart Inc.](#) said this month that [Jet.com](#), the online retailer it bought two years ago, will open [a fulfillment center in the Bronx](#) this fall to help roll out same- and next-day grocery deliveries in New York City.

The grocers are trying to solve one of the toughest problems in home delivery: Getting food to doorsteps in the same condition consumers would expect if they went to the store themselves. Delivering perishables is trickier than dropping off paper towels or dogfood. Fruit bruises, meat spoils, eggs break. Botched deliveries can upend dinner plans, leaving customers angry, and hungry.

“Consumers are not going to be patient with a retailer who delivers two hours earlier, and your ice cream is sitting outside,” said Jill Standish, a senior managing director and head of the retail practice at [Accenture](#) .

FreshDirect’s logistic hurdles start well before delivery. It must get products from its suppliers to the building, process the food, then pick, pack and ship orders before the quality degrades.

That is why the new facility has 15 different temperature zones. Tomatoes do best at about 55 degrees, but “chicken and meat like it to be just at 32 degrees... it gives more of shelf life to it,” said FreshDirect Chief Executive Jason Ackerman.

Software determines the most efficient route for each order, and tells workers which items to pick.



Individual orders at Fresh Direct's Bronx distribution center are packed in bins that speed between zones on conveyors equipped with thousands of sensors. PHOTO: DAVID 'DEE' DELGADO FOR THE WALL STREET JOURNAL

The site has shaved the time it takes to fulfill an order by 75%, according to FreshDirect, and doubled the number of items picked per hour, compared with the pace at its old facility in Long Island City, Queens. The company wouldn't say exactly how long it takes to fulfill an order.

"A big part of the facility is ripping out tons and tons of operating costs out of the business," Mr. Ackerman said. "It's faster, it's handled less, it's kept at the right temperature."

Still, the changeover from its Queens facility has resulted in some delivery issues. Late last month, some customers in Manhattan received emails telling them none of the items they had ordered were available. The company said later that a software upgrade had gone awry.

The stakes in getting the technology right are high. FreshDirect is competing with grocery chains that often fill online orders through their stores, using a mix of staff and third-party services like Instacart Inc. So-called click-and-collect services, where consumers swing by to pick up their own orders, tend to have better margins because the retailer isn't paying for last-mile delivery.

Kroger, the biggest U.S. grocery chain by revenue, recently increased its stake in British online grocer Ocado Group PLC, and [plans to license the company's technology](#) to run automated warehouses and process online orders. Online-only operations with centralized warehouses tend to be more efficient than logistics run out of stores, because they use fewer workers and can position goods for faster fulfillment, said Judah Frommer, a food retail analyst with Credit Suisse.

FreshDirect says its relatively small scale also can be an advantage since it doesn't have to be all things for all shoppers.



Nine miles of conveyor belts within FreshDirect's new Bronx distribution center weave through the 400,000-square-foot warehouse. PHOTO: DAVID 'DEE' DELGADO FOR THE WALL STREET JOURNAL

“We don’t ship Evian to Oklahoma,” Mr. Ackerman said. “We’re not a national shipping business. We focus on being the best local food, fresh food retailer. And a lot of the tech is to support that.”

—*Heather Haddon contributed to this article.*

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