



DISRUPTIVE TECHNOLOGIES BRIEFING

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Drones Lift Off

After years of speculation, delivery by drone is taking flight. Wing, a startup owned by Alphabet, launched an air delivery service earlier this month in North Canberra, Australia. Flytrex has a mail delivery program in the Ukraine, a partnership with online marketplace Aha to make deliveries in Iceland, and a delivery program at a North Dakota golf course. Meanwhile, Amazon appears to still be testing a system it has under development, and a video of its theoretical blimp making drone deliveries had the Twittersverse tweeting. Let's have an airborne view of where drones are flying:

(1) *Wing's in the sky.* Using Wing's app, consumers can order goods from a number of local retailers and have them delivered by drone in minutes. Items available for delivery include coffee, over-the-counter pharmacy items, and food.

Wing has been testing the system in Australia for the past 18 months, making more than 3,000 deliveries. Its drone has fixed wings spanning less than 1.5 meters and rotors like a helicopter. The drone remains in the sky and drops a line carrying the item being delivered to the ground. Currently, pilots monitor the drones, but eventually Wing hopes the drones will be autonomous, according to the company's [website](#). The company aims to launch its service in Finland this spring.

Not everyone is pleased, however. Some residents in Bonython complained about the drones' high-pitched whirring noise. They contend that the drones' cameras record data and are an invasion of privacy. And lastly, they believe the drones repel wildlife, particularly birds, stated an 11/9 [article](#) on ABC News in Australia. Wing says it has quieter drones in development.

(2) *Bragging rights.* Wing has officially beat Amazon to the drone-delivery punch. Amazon is also working on a drone delivery system, called "Prime Air." A 2016 company [video](#) said a trial was occurring around Cambridge, England. The autonomous drones carry packages up to five pounds to make deliveries in under 30 minutes. They land on the ground and eject the packages before flying away.

Amazon also has a patent for an "airborne fulfillment center," basically a blimp that's a floating warehouse and uses drones for deliveries. News articles covered the theoretical blimp back in 2016. But the idea received renewed attention in recent weeks after a very realistic, computer-generated video surfaced showing an image of the theoretical Amazon blimp with many drones flying out of it to make deliveries. Created by a digital video artist in Japan, the Amazon blimp looks amazingly real. A 4/3 [article](#) on Digital Trends includes the video.

(3) *No need for ice.* Flytrex is working with Aha, an e-commerce company, to provide drone delivery of fast foods in about half of Iceland's capital. Within five years, they hope to have enough drones to deliver to the entire city, according to a 9/24 [article](#) in *Euro News*. Aha uses the drones for two to three deliveries per day.

The rules are strict: To receive goods in the backyard, a homeowner needs written permission from

neighbors, the article states. The drones can operate from 11 am to 8 pm along 13 designated flight paths, from which they can deviate by up to 700 meters.

Flytrex also has an aerial mail delivery program in the Ukraine, a drone delivery program at King's Walk, a golf course in North Dakota, and is expanding a pilot in Holly Springs, North Carolina, where it worked last year with the state's Department of Transportation to test deliveries from restaurants to businesses.

There are numerous others working on drone delivery as well. "In May, Uber announced plans to deliver food by drone in San Diego, and local authorities cleared Alibaba's Ele.me to use drones to deliver meals along 17 routes in Shanghai's Jinshan Industrial Park. Microsoft will conduct undisclosed tests in Kansas ... and FedEx will develop a drone-powered aircraft inspection program in Tennessee," a 1/8 [article](#) on VentureBeat stated.

(4) *Is China ahead?* E-commerce company JD has launched a trial of delivering New Year's gifts by drone to rural villages in China. "The purpose of the drone program is to make deliveries to more remote areas of China more efficient," a JD spokesperson told DroneLife per a 1/16 [article](#). "Currently, it is costly, time consuming, and difficult to reach those areas, where order and population density are low. Right now, our drones are in daily operation in some rural areas in Jiangsu province and Shan'xi Province, now we've started to use drone delivery in the rural area in Sichuan province." Looks like birds are going to have to compete for air space.

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