

Delivery Drones



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What is Drone Delivery?

- Drone adoption is growing rapidly among both consumers and companies, and the retail industry is leading the way in that adoption.
- Drones could serve different purposes for retailers, but drone delivery is the most well-known and readily apparent.
- Drone delivery services show enough potential that Amazon, Alphabet, and other tech giants are hailing it as the future of e-commerce fulfillment.



And some companies have already taken the first step...

Pros & Cons

Pros

- Companies would save money on shipping costs, which would in turn reduce costs for consumers.

(Amazon spent approximately \$5.75 on shipping per package in 2016 while Drone Delivery would cost Amazon Under 1\$.)

- Consumers would receive their packages far more quickly and reliably, and encourage repeat purchasing.



Cons

- People would lose their jobs to automation, and those who don't would be severely limited in their career prospects with their companies.
- Consumers could raise privacy concerns, as drones would likely use GPS and cameras to find homes and deliver packages.

Problems

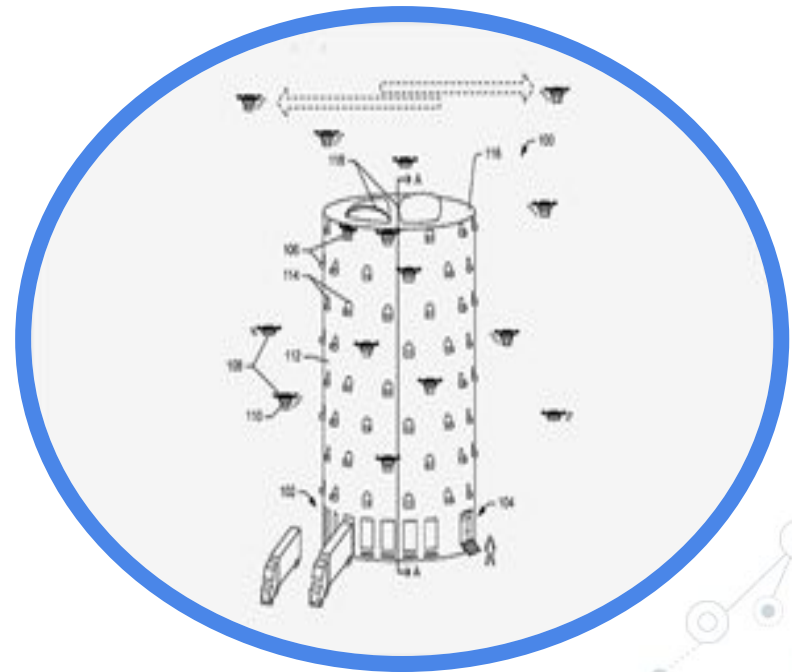
- A major issue for drone delivery projects in the U.S. is the FAA's line-of-sight rule, which requires that pilots be able to see their drones when flying them.
- Amazon Drones Can only fly 15 miles before running out of battery.
- Drones haven't been proven to reliably land under certain weather conditions, including rain.



Solutions

- Beehive-like towers that would serve as multilevel fulfillment centers for its delivery drones to take off and land.
- Amazon patents shipping label with built-in parachute for drone deliveries, so drones don't have to land in bad weather conditions.

- A few days later, however, the FAA decided to allow drones to operate without being in the pilot's line of sight.



Other Companies

Domino's - Drone delivery pizza became a reality in November 2016 when Domino's, with its drone, dropped off an order at a customer's door. A team of drone experts and a pilot controlled the Drone through GPS navigation to drop off the pizzas.

Amazon - plans to deliver customers' orders within 30 minutes through its Prime Air delivery program.



UPS - The drone itself will be 'launched' from an electric van which is fitted with a recharging station for the battery-powered drone.



Future

- A Drone created by the logistics company DHL says their drone “can fly up to 40mph and will deliver medication and other emergency items to the island when ferries or air travel are not operating.” The flights will take between 15 and 30 minutes.
- By launching drones from delivery trucks UPS calculates that reducing the routes its 66,000 drivers follow each day by a single mile will save the company \$50 million annually.

10 Things You Should Know

- Until regulations change, drones won't be delivering packages.
- UPS drone delivery test run shows us that drone technology isn't completely ready.
- Drones will not replace the human element and delivery drivers anytime soon.
- It's likely that it will be many more years before Prime Air takes off.
- Drones are useful not only for delivering packages but also getting medical supplies to people in need.
- Companies looking to use unpiloted drones have to wait for the FAA's rules to change.
- Drones need recharge stations close by.
- Many companies are looking into delivery by drones.
- Current drones aren't reliable in all weather conditions.
- Drone Delivery is raising many concerns from the public.



**Thank
you for
Listening**

