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Drone Delivery Is Near With FAA, NASA Focused on Safety.

NASA and the FAA are working to revolutionize air traffic control for the drone era.

“Please stay clear of the flight line,” warns Keith Hyde, director of U.S. operations for Wing. Safety comes first on these two fenced-off acres at the dead end of Welcome Street in Christiansburg, Va., where Wing has since 2019 been running the first North American drone delivery service. The drones are electric vertical takeoff and landing (eVTOL, pronounced “ev-tol”) aircraft, so instead of a runway, they park on a grid of landing pads that double as charging stations. Three dozen of the pads are arranged on a gravel patch the size of a basketball court, each topped with a QR code large enough for an incoming drone to scan and confirm its touchdown location.

Wing, owned by Alphabet Inc., has no competition for the skies over Christiansburg, a town of 22,000 not far from Virginia Tech, and it operates only in clear, windless weather. Its drones are made of light plastic and polystyrene but still weigh in at 10 pounds because of the controllers, lasers, cameras, and battery packs required to achieve their 12-mile round-trip range. This morning a dozen drones recharge, awaiting orders. The flight line is flanked by 11 shipping containers. The ones labeled C1, C2, and C3 are where the drones “sleep” during off hours. Containers C3, C4, C5, and C6 hold inventory from partners such as Walgreens, a local coffee shop, and an area Girl Scout troop, which relied on Wing to shore up flagging cookie sales during the pandemic.

On the perimeter, “merchant success associate” Folake Adeshina, who’s wearing a hard hat, an N95 mask, and a yellow safety vest, waits for an order. Her tablet dings, and she glances at the request: hot coffee. C6 is stocked with carafes, cups, cream, sugar, and stir sticks. Adeshina fills two cups with steaming hot brew. As she works, the pilot in command (PIC), a man identified only as P.J. who’s stationed in C11 behind a computer, chooses which drone will fulfill the mission. The system has already calculated an optimal flight plan, but the Federal Aviation Administration requires a “pilot” for the mission, along with an observer who’s surveying the operation from a nearby hill. “The PIC could probably be replaced with a decision algorithm,” Hyde says as P.J. smiles behind the window of his container. (Hyde is no longer working for Wing.)

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