



Drone Delivery Operations Roadmap and Expansion Plan

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Table of Contents

Introduction	3
Zing Operations Roadmap	4
Key Partnerships	7
Previous Demonstrations	9
FAQ	10
Appendix A (Industry Jargon)	11
Appendix B (FAA Certification Details)	12

Introduction

Zing is an end-to-end drone delivery platform that expands the reach of businesses by building autonomous flight software and plug-and-play hardware. The Zing platform enables customers to get deliveries directly to their doorstep in a faster and more efficient manner than existing online ordering platforms.

Zing is taking a phased approach towards our end goal of performing fully scaled and autonomous deliveries. We have created this roadmap to help identify key milestones and FAA certifications in our approach to scaling across the United States. Here we have listed out the key certifications that we will need to receive from the Federal Aviation Administration and our plans to acquire them. This roadmap will serve as an outline for our plans to acquire the certifications required for autonomous operations in the future.

Zing Operations Roadmap

The Zing Operations Roadmap details each phase of our business expansion leading to fully scaled operations. Each phase will include any necessary certifications and milestones as well as an approximate timeline. See a detailed explanation of each FAA rule and certification in Appendix B.

Phase 1 (Part 107 Operations): 6 Months

Zing is currently in Phase 1 and transitioning into our Phase 2 within the next 6 months. During our Phase 1 we are operating under the FAA's Part 107 regulatory framework which requires us to fly within Visual Line of Sight (VLOS). While Part 107 can be limiting and is typically viewed as an obstacle, our team has identified opportunities to perform operations over water ways and in open areas, such as golf courses, in order to comply within FAA regulations while testing our delivery platform and providing proof of concept.

By performing these demonstrations under Part 107, we can not only collect data to help advance our certification process, but also introduce communities and local businesses to this emerging technology. Phase 1 also consists of forming strategic partnerships with key industry players and securing investments.

- **March 2024** - Zing files Category III MOC for Flight Over People
- **April 2024** - Pilot Operation

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Phase 2 (Category III Operations): 9 Months

An intermediate step between Part 107 and Part 135 is the new Category III flight over people exemption*. The testing performed and partnerships secured during Phase 1 will help Zing secure the Category III flight over people exemption. As a result, Zing will be able to perform operations over people and moving vehicles and ultimately begin expanding to suburban areas for regular operations.

The companies that we have done demonstrations with will now have the opportunity to shift to regular drone operations using the Zing platform with local flight managers. This will put Zing ahead of its current competitors by operating within and getting early approval for this new regulation.

- **May 2024** - Begin Category III DOC (Declaration of Compliance) Testing
- **June 2024** - Get Category III DOC Approval
- **June - August 2024** - Expanding Miami Pilot Operation (Suburban Home Delivery)

** Most drone delivery companies have opted to wait until receiving their Part 135 type certification to begin their delivery operations. However, the Part 135 process requires significant testing which takes time and can be costly. By identifying ways to perform demonstrations under Part 107 and beginning small scale operations under Category III - we are able to simultaneously conduct the necessary testing needed to acquire our Part 135 while establishing businesses relationships and bringing in revenue.*

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Phase 3 (Part 135 Testing + Category III Operations): 18 Months

The holy grail of drone delivery is the Part 135 certification which enables operations Beyond Visual Line of Sight (BVLOS). This certification is necessary for fully scaled drone delivery operations within the United States. It is our goal to acquire this certification by mid-2023.

We are currently in talks with a potential industry partner that manufactures drones that qualify for the Type Certification (TC) required from the FAA to begin the Part 135 process. Once this partnership has been solidified we will begin BVLOS testing through the BEYOND program in Kansas to receive our FAA Part 135 certification.

While we are performing testing through the BEYOND program, Zing will be performing regular Category III operations with businesses at their pilot locations around the United States. We will be actively generating revenue while going through the Part 135 process.

- **August 2024** - Close Seed Round (\$5M Goal)
- **August 2024** - Part 135 BVLOS Testing in Kansas with Drone Manufacturing Partner.
- **October 2024** - Receive 44807 Exemption for Drone Partner and begin closed ops.
- **May 2025** - Receive Type Certification for Drone Partner.
- **May 2025** - Receive Part 135 Air Carrier Certificate for Zing.

Phase 4 (Fully Scaled Part 135 Operations): 24 Months+

Once Zing has secured the Part 135 certification we will be able to fully scale and perform regular drone delivery operations across the United States. Individual pilots will be stationed at bases where they can monitor fleets of Zing delivery drones. Our platform will be integrated with local infrastructure such as smart mailboxes, electric garages, sidewalk bots, and more to provide a seamless experience for consumers.

During Phase 4 is where the low platforms fees for businesses come into play. Autonomy within our platform facilitates low labor costs and the efficiency of fully scaled drone delivery operations means more daily deliveries. Our pricing structure and business model will allow local businesses to pay less while generating more revenue and exciting their current consumer base.

- **August 2025** - Close Series A Round (\$15M Goal)
- **August 2023** - Begin scaling through partner network.

Key Partnerships

Regulatory Partners

FAA BEYOND Program - BEYOND is an FAA associated program that acts as a pathway to the FAA Part 135 certification. Beyond Visual Line of Sight (BVLOS) operations are only permitted under FAA Part 135 with a Type Certified drone. To earn that certification, testing must be performed in certain controlled locations across the United States. Zing is a member of the Kansas Department of Transportation (KDOT)'s associated BEYOND testing range. Data is gathered in relation to research and safety with the Kansas State University.

AirspaceLink - AirspaceLink is the market leader in State and Local Government drone software, data exchange, and mapping - offering the most powerful geospatial cloud available and connecting the Federal Aviation Administration (FAA) and the drone industry. Airspace Link has helped customers unlock the full potential of ground and air data to improve safe drone operations in the national airspace and our communities. The Airspace Link platform is an all-in-one, cloud-based platform simultaneously connecting all constituents involved in legally and safely flying a drone. Airspace Link solutions can scale to hundreds or even millions of people, pilots and drones interacting with it at the same time.

Skyway - Skyway is an air traffic control (ATC) system designed for autonomous commerce and logistical services. They provide the critical foundation required to create a fair open market economy. Their goal is to create a safe, scalable infrastructure to support the millions of potential airborne vehicles poised for flight within the next decade. Zing plans to take part in initial beta testing of the platform in Florida in order to deconflict with other drones, air taxis, and other airborne vehicles that are flying in the same vicinity. We plan to incorporate Skyway's APIs into our proprietary autonomous flight software. This partnership will enable us to add another level of safety to the Zing drone delivery platform.

Operational Partners

Drone Manufacturing Partner (Not Public Yet) - [Drone Manufacturing Partner] is a drone manufacturer innovating in the drone delivery space. Using their state-of-the-art hardware, Zing plans to integrate its drones into the national airspace system and enhance delivery capabilities in Phase 2+.

Smart Infrastructure Partners

Valqari - We have partnered with these smart mailbox providers to provide a smart receptacle for packages to be dropped off at homes and communities. The benefit of smart mailboxes is that it may enable us to perform deliveries of more sensitive items such as prescriptions directly to customers' doorsteps.

Cloud Kitchen Partners (Not Public Yet) - Cloud kitchens are physical locations for well-known restaurants that only offer delivery. They can either be within trailers or at physical restaurant locations. The benefit of cloud kitchens is that we can have infrastructure such as rooftop charging stations and takeoff points without worrying about flying over our near the restaurant's customers. This also provides a truly on-demand delivery experience since the delivery drone will be on location and ready to fly.

Previous Demonstrations

Our delivery demonstrations not only provide an opportunity to introduce this emerging technology to local communities, but also allows our team to collect data and perform the necessary testing and proof of concept required to scale our drone delivery platform.

Cafe Du Monde | New Orleans, LA

- Performed several deliveries across the Mississippi River carrying beignets from *Cafe Du Monde* to Algiers Point.
- Introduced emerging technology and allowed the community to engage with our platform.
- Interviewed by Grant Guillot and profiled for MarketScale docu-series *Drones in America*.

Flying the Fairways | Detroit, MI

- Partnered with Airspace Link, Lakes of Taylor Golf Course, DroneDek, and Detroit Aerotropolis.
- Performed golf course deliveries into a DroneDek smart mailbox receptacle.
- Demonstrated viability of short range deliveries and gave city officials the opportunity to witness the success of these deliveries.
- Garnered attention from local media and online publications.
- Resulted in an official partnership with Airspace Link.

Future Fest | Ontario, CA

- Partnered with the 4th Sector Innovations and Airspace Link.
- Performed deliveries to City Hall and got positive feedback from community members.
- Expansion conversations with key personnel from Southern California governments.

Other Previous Demonstrations:

Tierra Vierde | St. Petersburg, FL

CoMotion | Miami, FL & Los Angeles, CA

Miami Hack Week | Miami, FL

Lawrence Community Safety Day | Indianapolis, IN

Leo's Family Restaurant Delivery | South Bend, IN

FAQ

Why drone delivery?

Current delivery platforms are slow, expensive, and bad for the environment. There is a variety of consumer, business, and societal benefits that are associated with drone delivery. The consumer benefits include saving time and supporting those with mobility challenges. Businesses are given the opportunity to reach more customers and excite their current customer base. Scaled drone delivery operations have been proven to lower CO2 emissions and increase street safety by reducing car wrecks and damage to infrastructure in suburban communities.

Why is Zing taking this phased approach to full expansion?

The phased approach is necessary to receive our full Part 135 Air Carrier certification from the FAA. This certification will enable us to perform operations that are Beyond Visual Line of Sight (BVLOS). By starting with the current regulations and gathering data it makes our platform more robust and gives us a first-mover advantage. The flights that we perform today will be utilized as data sources when applying for our Category III and Part 135 Air Carrier certificates.

Who are Zing's direct competitors?

Zing Drone Delivery is unique in that our direct competitors are not other drone companies, but instead we compete mores with online ordering platforms such as Uber Eats and GrubHub. We do not intent to focus on enterprise level drone delivery from factories or warehouses, but instead intent to complete last mile deliveries and small package deliveries from local businesses to nearby communities. Currently these platforms use similar pricing structures that have horrible effects on local businesses. For example, Uber Eats forces restaurants to pay up to 30% off their standard menu price as a platform fee, leaving the restaurant with zero profit. Our autonomous operations will lower labor costs and allow us to charge our restaurants and customers less for a faster delivery.

Why is Zing flying manually today?

We are not flying fully manual today, technically our drone deliveries are “semi-autonomous” meaning a pilot is actively monitoring the autonomous flight and has the ability to “Abort” the mission if anything seems off. We are performing these missions and improving our platform under the current regulations while our competitors are waiting for the regulatory environment to change.

Appendix A

ATC - Air Traffic Control

ATM - Air Traffic Management

BEYOND Program - A Presidential Memorandum established the Unmanned Aircraft Systems (UAS) Integration Pilot Program (IPP) on October 25, 2017. Under the IPP, the Federal Aviation Administration (FAA) executed Memoranda of Agreement (MOAs) with 10 state, local, and tribal governments to conduct advanced UAS operations to advance safe and secure integration. The nine IPP lead participants accomplished many achievements under the IPP, and the FAA shared the relevant data and lessons learned with the appropriate policymakers and regulatory teams within the FAA and DOT to inform regulations, policy, and guidance. The FAA concluded the IPP on October 25, 2020 as mandated by statute, and decided to continue the partnerships and progress it made under the IPP to continue to address remaining challenges.

BVLOS - Beyond Visual Line of Sight

DOC - Declaration of Compliance (Category III)

FAA - Federal Aviation Administration

LAANC - Low Altitude Authorization and Notification Capability

MOC - Means of Compliance (Category III)

OOP - Operations Over People

UAS - Unmanned Aircraft System

UTM - Unmanned Aircraft System Traffic Management

VLOS - Visual Line of Sight

Appendix B

FAA Part 107 - Requires an application process that includes a significant amount of regulatory compliance, and this process typically takes three-six months. FAA Part 107 is the regulatory framework guiding Visual Line of Sight (VLOS) drone operations. To operate under FAA Part 107, a drone pilot in command (RPIC) must hold an FAA Part 107 Certificate which is attained by completing an FAA course and exam. Phase 1 and 2 operations are conducted under the FAA Part 107 framework.

FAA Category III Certification - Zing is pursuing an FAA Cat III certification. This will allow for operations over nonparticipating individuals. Under the framework of FAA Part 107 regulations, drone operations must be within the Visual Line of Sight (VLOS) and not over uninvolved parties. With an FAA Cat III certification, Zing can perform these Part 107 deliveries and expand to a wider radius from the launch and recovery location. The drone no longer has to avoid roads, people, and other objects on the ground.

FAA Part 135 Air Carrier Certificate - This is the holy grail of drone delivery in the United States, enabling Beyond Visual Line of Sight (BVLOS) operations. The FAA grants this certification to US-based companies that have demonstrated an optimal level of safety with their delivery operations. The Part 135 certificate was taken from the world of manned aircraft operations (UPS, Amazon Prime Air, etc.)

Type Certification (TC) - The drone that is utilized in Part 135 Air Carrier operations has to go through a process from the FAA to guarantee safety and reliability of the platform. It requires the drone to go through 1,000 hours of flight testing with minimal safety issues. Zing plans on partnering with a company going through the TC process in order to receive our Part 135 certificate.

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