



A2Z DRONE DELIVERY

## Case Study: Hurricane Relief Aided by the A2Z Drone Delivery RDST Cargo Drone

*Zing Drone Solutions Delivers Meals and Other Essentials to Residents Stranded by Hurricane Ian*



### Customer: Zing Drone Solutions

#### Background

Founded in Saint Petersburg, Florida, in 2018, [Zing Drone Solutions](#) empowers businesses by providing them with customized and innovative drone solutions. With a focus on building integration partnerships with key industry players, Zing brings the latest cutting-edge technology together to tackle some of the most pressing drone delivery missions. The Zing team has the expertise to build customized operations for just about any mission parameters, and put those capabilities on display in a recent hurricane relief mission. In late September 2022, Hurricane Ian made landfall just south of the Zing headquarters in Lee County, Florida. The coastal damage was immense, and even weeks after the storm had passed still presented a major problem for residents of Sanibel Island, Florida after the only bridge leading out to the island was destroyed. This was the only way for ground vehicles to reach the homes of the 7,000 residents. To provide some relief for the residents of Sanibel Island, Zing Drone Solutions, an [FAA BEYOND Program](#) member company led a rapid collaboration with partners from [A2Z Drone Delivery](#) and [Skyway Technologies Corp.](#) to deliver meals and essential supplies to the Sanibel Island residents.

#### Customer Needs

The geography of the Fort Myers area makes for a beautiful and tranquil setting. The sandy barrier islands set roughly two miles off Florida's west coast are a destination for vacationers and year-long

residents seeking the sun-bathed beaches and laid-back atmosphere. Major storms are also routine visitors to the shores, but the combination of Hurricane Ian's Category 4 winds and a massive storm surge were totally devastating for the coastal region. In surveying the aftermath of the passing hurricane, first responders found multiple causeways to the barrier islands had been badly damaged, and closed them to vehicle traffic. Emergency repairs began immediately, and soon a temporary bridge was open, but with only limited access for residents.



It was in this state of uncertainty that Zing Drone Solutions devised a plan to assist in the hurricane relief efforts by delivering meals and other essentials such as portable battery chargers, flashlights, etc. to the island residents by drone. With storm damage and debris strewn throughout the island and mainland, the team needed a delivery drone capable of depositing payloads from altitude to keep spinning propellers away from operations

personnel, local residents and storm debris. The airframe also needed to support multiple round-trips across the two-mile sound separating Sanibel from the take-off location on neighboring Pine Island, and the airframe needed to carry potentially varying payloads.

“Watching the hurricane relief efforts happen in real time, we saw drone delivery as an immediately impactful tool to get some much-needed assistance to the residents of Sanibel Island,” said Ian Annase, CEO of Zing Drone Solutions. “We saw that the temporary bridge was progressing quickly, but were also hearing that once it was opened there would be very limited access to the bridge for residents. With Sanibel situated a mere two miles from the mainland, we knew a drone delivery operation could streamline some of the aid going to the island, and we knew we could bring together the hardware, support systems and operations team to make it happen quickly.”

In addition to the demands on the flight platform, the Zing team also needed to monitor the surrounding airspace where other ongoing air operations were underway, track local weather, and pull together a qualified team of pilots, visual observers, and support staff to man the operation.

### **Solution**

In the days leading up to the operation, the Zing team scouted take-off and landing zones in the area. They ultimately identified a take-off location on neighboring Pine Island that was newly accessible after repairs to the Pine Island Causeway were rapidly completed. The Zing team plotted a direct route across the two-mile stretch of ocean to Sanibel Island.

To make the voyage, the Zing team called upon A2Z Drone Delivery to bring its new RDST commercial delivery drone to the mission. The RDST was the ideal solution for the hurricane relief mission offering a flexible payload bay, ability to carry any size and shape payload boxes, and its auto-release tethered

delivery system. The RDST offered the necessary range to complete the round-trip across the two-mile stretch, and the needed payload capacity to deliver multiple meals in a single trip. Because it deposited its payload via its integrated RDS2wich system, the delivery drone was able to complete deliveries from a hover above the tree line, which helped the pilot and visual observers maintain line-of-sight throughout the entire operation. Additionally, the RDST's ground control station allowed the Zing team to program a very specific delivery route, and then replicate that flight path at the touch of a button.



To monitor the surrounding airspace, Zing brought in another partner to collaborate on the relief efforts. San Rafael, California-based Skyway joined the mission bringing its Unmanned Traffic Management (UTM) services to bear on the relief effort. The Skyway system uses proprietary data driven analytics and machine learning to give the most reliable dynamic routing service for drone delivery operations. With Zing's team of pilots armed with the A2Z Drone Delivery RDST and Skyway's UTM services, the relief effort was ready to take flight.

"The combined capabilities that this team brought to the table is what made this rapid deployment possible. With our team from Zing managing logistics and planning, the A2Z Drone Delivery heavy lift drone, and the air space monitoring from Skyway, we were confident after our initial testing that we could make this mission happen," said Annase.

## Results

After several days of planning and coordination with local hurricane response units and local municipal officials, the Zing team opened air operations making deliveries to Sanibel Island. Bringing together a collaborative team from all over the United States, the Zing team was able to conduct deliveries to Sanibel Island residents over the course of a three-day deployment of the volunteer team.

"This operation was an amazing opportunity to help our local community in a time of need, but it also taught us a great deal about how drone delivery can become a valuable component of disaster relief efforts in the future," Annase said.

The Sanibel Island operation provided the perfect proof-of-concept mission for the immense value that drone delivery can bring to post-disaster relief efforts. Since the conclusion of operations, the Zing team has continued to refine its operational capabilities, and engaged a lease agreement for fleet operation of the RDST, to ensure it is prepared to rapidly respond to future storm events.