



Zipline runs the only nationwide drone delivery networks in the world, powered by the fastest and most reliable long distance delivery drone. Zipline Ghana is a central part of the Ghanaian medical supply chain, operating 4 distribution centers serving 2,000 health facilities with routine medical supplies and emergency blood and essential medicines.

# PROTECTING GHANA'S ELECTION: INSTANT AGILITY WITH ZIPLINE'S AUTONOMOUS DELIVERY NETWORK



## THE CHALLENGE EMERGENCY PPE FOR GHANA'S POLLING STATIONS

On December 5th 2020, Ghana's Eastern Region Electorate faced a seemingly impossible logistics challenge. Polls were opening in 48 hours for the presidential election, and poll workers lacked masks and personal protective equipment (PPE). Tens of thousands of face masks needed to be distributed to over 33 districts over an area of 19,323 km<sup>2</sup>. By traditional ground transportation, planning and executing this distribution would take 48-72 hours and would deliver just 50% of the required supplies, assuming vehicles were even available.

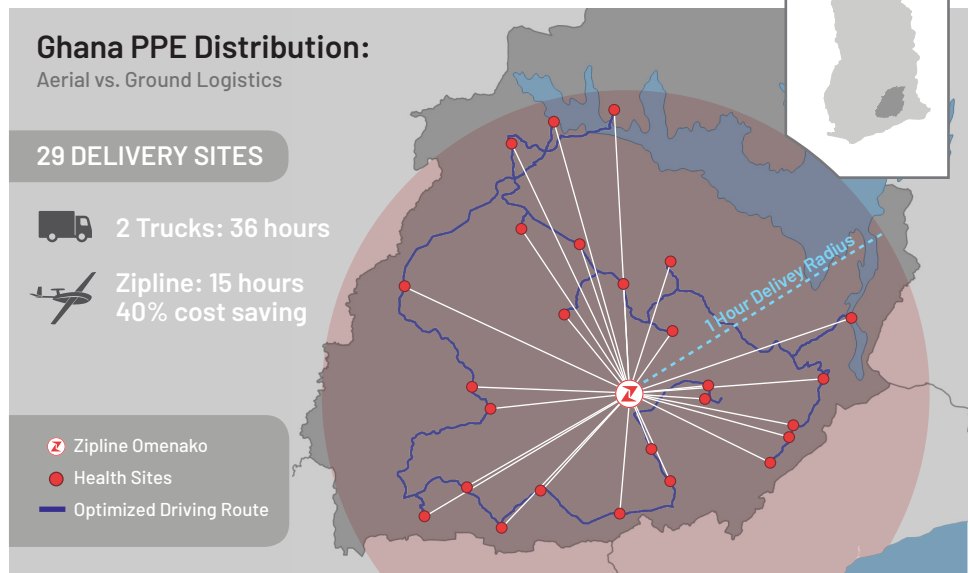
### GHANA PPE DELIVERY SUMMARY

➤ Ghana leveraged the Zipline autonomous delivery network to **distribute >18,000 face masks to 29 sites with less than a day's notice.**

➤ **Within 16 hours of receiving supplies, Zipline completed 160 deliveries in full,** outperforming ground transportation in speed and efficiency with only 60% of the costs.

➤ The surge required **no additional planning and did not disrupt the normal operation.**

➤ Despite the surge, **routine Zipline operations experienced no delays or disruptions,** and the new route planning was executed nearly instantaneously.



## ZIPLINE'S SOLUTION AN AGILE AND INSTANT SUPPLY CHAIN

The Eastern Region Electorate immediately reached out to Zipline to request the rapid distribution of PPE in order to ensure that polls were able to open and keep its workers protected. Zipline agreed and the 18,000+ face masks were picked up and dropped off at Zipline's Distribution Center in Omenako.

In a matter of hours, Zipline coordinated with district directors to select local health facilities as delivery sites. Just 16 hours after the initial request, the Zipline operations team began deliveries. Over the next 15 hours, Zipline dispatched over 160 flights to 29 delivery sites. At the peak, there were 18 Zipline aircraft delivering simultaneously and the operation averaged 15 deliveries per hour of operation.

By 9AM the next day, election day, Zipline had distributed all of the inventory and polling officers had distributed them to polling sites. Every polling station in the Eastern Region was able to open on time with all personnel receiving the appropriate PPE, enabling hundreds of thousands of Ghanians to vote.

# EMERGENCY DISTRIBUTION: GROUND VS. AERIAL LOGISTICS



	Traditional Ground Delivery	Aerial Logistics with Zipline
Total time in delivery	48 hours for 1 truck 36 hours for 2 trucks	15 hours (45 minute max delivery time per flight)
Delivery risk	High risk (traffic, weather, personnel)	Low risk (all weather, remote locations, continuous operation)
Ability to scale	Low	High
Dispatch speed	Dependent on drivers and trucks	Instant
Cost savings	—	40%

## BENEFITS OF ZIPLINE SUPPLY CHAIN SERVICES



### Instant resource mobilization

Zipline's autonomous system can respond to surges or changes in demand in minutes and can immediately scale to meet new requirements.



### Real time visibility & tracking

Get full visibility into your supply chain with real-time tracking - all orders are GPS-tracked and all events are timestamped.



### Continuous & resilient operation

Zipline reduces risk and increases operational continuity with autonomous delivery capable of simultaneous delivery to dozens of locations.

## SUPPLY CHAIN RESILIENCE AND FLEXIBILITY: LESSONS LEARNED FROM AUTONOMOUS DELIVERY AT SCALE

Medical supply chains are evolving to become faster, more flexible, and more resilient - and they are turning to on-demand systems to give them all three. While it will almost always be more cost effective to send routine shipments of large, low cost, cargo via ground based transportation, the application of autonomous aerial logistics is far broader than the emergency delivery of high cost, perishable goods.

As Ghana looked for a scalable solution capable of delivering PPE prior to election day, Zipline's on-demand delivery was able to deliver more efficiently on all fronts: a faster, cheaper, and more flexible solution that provides real-time tracking with greater visibility.