

Memo

To: HELP, Inc. CEO
From: Our team
cc: Board of Directors
Date: 01/29/2019

Our model successfully designs a DroneGo disaster response that meet your requirements.

In the following part, we are going to briefly display our modeling results and conclusions. Based on this, we give our recommendations for drone fleets, set of packages, and flight plan.

Modeling Results & Conclusions

• Three Container Locations & Two kinds of Reigions

We divide five hospitals into three separated regions. One on the east, one on the west, and three in the middle. Accordingly, we select three locations for these regions respectively.

Container Location	Longitude	Latitude
1	-65.6848	18.2934
2	-66.0710	18.3200
3	-66.7421	18.3932

• Two kinds of DroneFleets

Three regions are divided into two kinds. One is delivery-oriented, the other is video reconnaissance-oriented. For the first region, DroneGo chooses Drone B, Drone C to perform missions, while Drone B, Drone C, and Drone F are selected for the latter.

• Bay Packing Configurations

Similarly, DroneGo packs its bays according to regions.

- **Satisfied Hospital Demands & Flight Schedule**

Our DroneGo satisfies at least six days demands of each hospital. Drone Fleets don't have to begin their next flight for at least six days.

Hospital	MED 1	MED 2	MED 3	Satisfied Days
1	6	0	6	6
2	18	6	8	8
3	14	9	17	9
4	13	10	15	6.5
5	12	0	2	12

Recommendations

- **Excellent Drone fleet**

We recommend the following drone fleet, as it keep a balance between delivery and reconnaissance, while making good use of space.

Drone Fleet I			Drone Fleet II		
Drone	Bay	Quantity	Drone	Bay	Quantity
B	×	20	B	√	29
C	×	9	C	√	9
F	√	2			

- **Superior Bay Packing Configuration**

We advise a bay packing configuration that not only meets the demands of hospitals, but also makes the best use of space.

Container	MED 1	MED 2	MED 3	Quantity
1	3	0	3	2
3	6	0	1	2

Drone Fleet II Bay 1(Drone B)				Drone Fleet II Bay (Drone C)			
MED 1	MED 2	MED 3	Quantity	MED 1	MED 2	MED 3	Quantity
1	1	0	7	4	1	1	2
0	2	1	5	2	2	2	1
1	0	1	4	1	1	3	1
0	0	2	4	1	0	4	1
2	0	0	3	2	0	3	1
0	0	2	2	5	0	1	1
0	4	0	2	3	1	2	1
1	2	0	2	4	0	2	1
5(sum)	9(sum)	6(sum)	29(sum)	22(sum)	5(sum)	18(sum)	9(sum)

We hope our DroneGo system could help your humanitarian!