Draft

Best Practice Drone Delivery to COVID Patient, Panipat

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Introduction

The COVID-19, a global pandemic that caused more than 164,000 deaths and infected more than 2 million people worldwide, make us rethink how governments, organizations, and societies around the world can work with minimum or without physical contact. Today, the frontline warriors and heroes of the nation are doctors, medical staff, local police, private security guards and refuse collectors. Technologies like Artificial Intelligence, Big Data, GIS and Mapping, Location Technology and autonomous machines are playing a growing role in responding to COVID-19 pandemic. However, in this war against this invisible enemy, drones play a key role by helping authorities and people in different ways to prevent further spread of the coronavirus outbreak. Let's look at how drones are being used effectively to combat COVID-19.

Promising uses of Drone in Emergency

Surveillance

An important aim for authorities across the globe right now is to prevent the spread of the virus. To ensure this unprecedented measures ato reduce people-to-people contact. Most countries took measures like the closure of non-essential public places, ban of mass gatherings and ensuring a social distancing to limit physical contact.

However, in some areas where individuals are not complying with the restrictions knowingly or unknowingly, or do not know what the latest restrictions are, law enforcing authorities such as the local police or municipal authorities are using drones to monitor people's movement and break up social gatherings that could pose a risk to society. The introduction of drones at this time of crisis is reducing the risk of getting infected to police officials and other staff since it enables monitoring vast swathe of area without physical engagement. However, the use of drones for surveillance raises a debate about privacy and individual rights on mainstream as well as social media.

Broadcast

In addition to street surveillance, authorities are also using drones to broadcast messages and information about lockdown measures, especially in rural area that lacks open communication channels for health information. Drones equipped with loudspeakers are used to make public announcements to keep people indoors, take necessary precautions, make social-distancing and wear a mask if stepping outside from home. China and many European countries are using drones for broadcasting messages to public to create awareness among people.

Disinfectant Spraying

To disinfect public spaces and prevent the further spread of COVID-19, health authorities are deploying agriculture spray drones to carry out tasks like spraying disinfectant in potentially

affected areas. These spraying drones are filled with disinfectants and can cover much more ground in less time and 50 times faster than traditional methods. According to DJI, the world's largest drone maker company, a spraying UAV can carry around 16 Litre of disinfectant and cover 100,000 sq meter area in an hour. These drones are easy to operate, inexpensive and can be quickly mobilized, in addition to reducing the risk of health and sanitation workers getting exposed to both the virus and the disinfectant.

Medicine and Grocery Deliveries

Doctors and hospitals need medical supplies and laboratory testing more than ever, and drones are the safest and fastest ways to deliver medical supplies and transport samples from hospitals to laboratories. In Wuhan, the epicenter of the pandemic, a drone is used to deliver medical supplies in the hospital. This technology not only speeds up delivery of essential medical supplies and samples but also reduces the risk of exposure to medical staff and making a major difference in efforts to combat the disease.

Temperature Check

During the peak of the epidemic in China, authorities were carrying out large-scale remote temperature measurement in most apartment complexes through the drones. Since people were worried of catching the infection, to avoid the face to face contact, Chinese authorities used drones equipped with infrared cameras to measure the temperature of people who were lockdown in their houses. In one of the videos uploaded on social media, the drone can be seen rising to the windows of a building and taking people's temperatures when they open their windows.

Problems identified in Panipat

In the district Panipat, Covid-19, quarantine persons faced the problem of shortage of food and medicines. Nobody wanted to go to their home for providing any kind of help. If the quarantine people come out for essential items, they may spread Corona infection to other citizens who come in their contact. This could nullify all efforts which were diligently being put by district administration.

Drone Deployment

As an innovative method, drones were used for home delivery of medicine, groceries, food and other essential items to quarantined Covid-19 affected in Panipat. Drone was hired by district administration from a Chandigarh based company Jungle Works.

Outcome of the initiative

Drone could make home delivery of medicines to the quarantined people in a safe and contactless manner. Use of Drone can make an impact on finding newer methods of reaching persons in a hazardous situation and provide solution for other similar conditions, particularly in the event of a disaster, for protecting and saving people during emergencies.

What may not work

Drone delivery has been a loose cannon in general with very limited real adoption and therefore very difficult to make a business case owing to the costs involved. India yet quite far away from defining drone corridors and other logistics. The drones can't fly higher than fifty feet and the higher category drone weighting over 2 kg require an air defence clearance. Drone can fly up to three km and can load only 3 kg weight.

Conclusion

Drone delivery is already in use for military purposes and in disaster management procedures for making deliveries as an efficient and cost effective option. The experiment was made in Panipat on pilot basis. It was attempted only in two-three situations in district Panipat for Covid-19 patients. Results of more frequent and multi-purpose uses are still to be determined. In the present instance it may be considered an expedient and out of box thinking to serve the twin purposes of maintaining distance and making contactless delivery.

However, it has opened a window of opportunity that if situation and circumstances so require the drone technology can be successfully used in emergencies where only a few or no other viable options for mitigation are available.