The Usage of Drones to Fight COVID-19

Riley Jacobsen

South Dakota State University

Abstract

This paper describes how unmanned aircraft systems are being used to combat COVID-19. This paper outlines the key roles that the drones are being used for and other capabilities that the drones are being used for. Each country with drone capabilities effectively uses drones to stop the disease.

THE USAGE OF DRONES TO FIGHT COVID-19

Throughout the year 2020, there has been a global pandemic called COVID-19. COVID-19 has impacted every country in every aspect of normal life. The world and its countries are being impacted economically and socially in a negative way. Countries are completely shutting down businesses, prohibiting any mode of transportation within their country, and implementing stricter countermeasures to stop the spread of the virus. However, many countries of the world, are decreasing the negative impact on the country's economy through the usage of unmanned aircraft systems. Unmanned aircraft systems are also known as drones.

Drones have been rapidly advancing to the point where drones' capabilities are almost unlimited. Governments that have drone capabilities realize this and are using drones to help a multitude of economic activities such as transport medicine, patrol populations within an area, and transport goods. Eighteen countries have permitted the use of drones for transportation and delivery of products during this pandemic. (How Drones are Used to Combat COVID-19, 2020). Drones allow for contactless encounters between the pilot and the recipient, this decreases the spread of the virus. Drones are also able to reach places that are hard to get to by roads, remote areas, and highly populated areas. Restrictions and protocols from the governments allow drones to be a safe way to ensure the health of the citizens within the countries.

KEY USES

Drones are being used during this pandemic in many countries. Three of the most important uses for drones during the pandemic are ariel spraying, lab sample pick-up and delivery and transportation of medical supplies, and public space monitoring. (How Drones are Used to Combat COVID-19, 2020). The key uses are singled out because they are the ways that the governments are using drones to ensure the safety of their citizens.

Ariel Spraying

Ariel spraying is one capability that drones have. With aerial spraying, governments can spray disinfectant in large indoor and outdoor areas that have congestion of people. The disinfectant kills the COVID-19, as well as other diseases, microbes that may be on the surface of the area. The ariel spraying keeps the workers who would usually have to go manually sanitize these areas in person at home and in a safe space away from the potential diseases in areas that require frequent disinfecting. Pulverization with the disinfectant spray from unmanned aircraft systems can be 50 times more effective than pulverization done by persons, depending on how the drones are used. (EUCHI J, 2020). This practice is still being done in areas such as China, Spain, United Arab Emirates, and other countries. (How Drones can be Used to Combat COVID-19, 2020).

Lab Sample Pick-up and Delivery and Transportation of Medical Supplies

Drones are being used to pick-up and deliver medical supplies from one medical research facility to another. Using drones is a fast and efficient alternative to using cars, trucks, and trains to cross unreliable terrain, drones can get to these places in minutes and with minimal risk of contamination. (EUCHI J, 2020). The United States Federal Aviation Administration allowed operators to transport goods and certain medical supplies–including test kits, most prescription drugs, and, under certain circumstances, blood–provided the flight complies with all provisions of the small unmanned aircraft rule (Part 107) or authorization. (Federal Aviation Administration, 2020, April 14). Since 2018, the country of Rwanda has had a large drone force that has been capable of transporting medical supplies. (COVID-19 response in Rwanda: Use of Drones in Community awareness, 2020, July 20). Transporting medical supplies through drones

assures prompt delivery of the medical supplies because it is through the air. There is more land traffic than air traffic, so air traffic is usually a faster means of transportation.

Public Space Monitoring.

Governments raise their population's awareness about the pandemic using drones. Drones have speakers attached to them to alert their population about the dangers and symptoms of COVID-19. These speakers make it possible for the pilot to directly communicate with the population as well. This allows pilots to identify and disperse groups of people who do not respect confinement or precautionary measures. (EUCHI J, 2020). Drones with speakers allow the population to get more information about the disease to areas that may not have access to electricity, the internet, or other ways to communicate from a remote location. Drones are also able to have cameras attached to them. These cameras allow real-time footage to monitor the population in public places for health officials and law enforcement officers. The recorded footage allowed law enforcement officers, local authorities to closely monitor areas for the need of any intervention or evacuation that would normally take longer to identify and organize. (COVID-19 response in Rwanda: Use of Drones in Community awareness, 2020, July 20).

OTHER CAPABILITIES OF DRONES

Drones have other capabilities that the government has been using to monitor COVID-19. These uses include the detection of the ill and consumer delivery. Because drones can have numerous amounts of attachments these capabilities are possible.

Detection of the Ill

Drones can detect the ill using heat sensing. Thermal cameras are a tool that drones can have equipped. Thermal camera drones will automatically detect each person due to the high precision infrared which has been widely used in overcrowded areas to help management and

evacuation on site. (EUCHI J, 2020). Having a fever is a common symptom of a person being sick. If a person has a temperature they should not be in public because they are sick, and it is how diseases are spread. If needed the drone can single out the person that has the fever and communicate with the population around the person to disperse from that person.

Consumer Delivery

Drones can deliver products to consumers' houses. Using drones to deliver these products is just another way that allows for contactless delivery. The packages must be within the weight range that the drone can carry. Drone delivery allows for a fast and efficient way to deliver products to consumers. Using drones to deliver consumer products to the houses of doors decreases the chance that a delivery person may spread the virus between houses or that the delivery person gets the virus.

CONCLUSION

In conclusion, many countries are using drones to decrease the spread of COVID-19. The countries are using their drones to decrease the spread by using them as ariel spraying, lab sample pick-up and delivery and transportation of medical supplies, public space monitoring, detecting the ill, and delivering consumers products. All these ways are a method in which to decrease direct contact between people. Drones are also a way to get information and supplies to people in highly populated areas, remote areas, or areas that are hard for a person to reach by roads.

References

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