



Trial Run of Blood Bag Delivery under the iDrone Initiative of ICMR successfully conducted

Inaugural flight carried 10 units of whole blood samples from GIMS and LHMC, for the first time in India

The boost of technology is an accelerator which is gradually pushing India towards achieving the status of being a developed nation as envisioned by the Hon'ble Prime Minister: DG, ICMR

Posted On: 10 MAY 2023 6:03PM by PIB Delhi

In continuance with the national mission of expanding drone ecosystem in India, Indian Council of Medical Research (ICMR), Union Health Ministry successfully conducted a trial run of blood bag delivery by drones under its iDrone initiative, here today. The trial run as part of a path breaking validation study has been undertaken for the first time in the country by the collaborative efforts of ICMR, Lady Hardinge Medical College (LHMC), New Delhi, Government Institute of Medical Sciences (GIMS), Greater Noida and Jaypee Institute of Information Technology (JIIT), Noida. The inaugural trial flight carried 10 units of whole blood samples from GIMS and LHMC in visual line of sight.





LHMC and GIMS are included as centres for supplying blood bags and testing of the samples, while IIIT is acting as the implementation centre for drone sorties. The protocol development, study designing, implementation, and coordination of the project are being undertaken by scientists from ICMR-Headquarters.

The vision of Hon'ble Prime Minister of expanding the drone ecosystem in India has provided a ground for innovative use of drones in various sectors such as agriculture, defence, disaster relief and healthcare. With the relaxations in the Drone Rules 2022, the inclusion of novel technologies such as drones in these sectors has been eased for researchers and drone operators.

ICMR has been a pioneer in using drones for healthcare purposes and successfully conducted the delivery of medical supplies, vaccines, and medicines in remote areas of Manipur and Nagaland. The drone-based delivery of blood will reduce the time for last-mile deliveries within the country.

Highlighting the significance of the event, Dr. Rajiv Bahl, Director General, ICMR emphasized that “this 'i-DRONE' was first used during covid19 pandemic by ICMR for distributing vaccines to unreachable areas. Today, we are transporting blood & blood-related products, which are supposed to be kept at a low temperature. After the experiment, we found that not only can we maintain the temperature, but there was also no damage to the products transported. We sent another sample through an ambulance & if there are no differences in the samples sent using the two modes, then this drone will be used all over India.”

He further stated that “clarity on challenge mapping and identifying the possible solutions can be achieved by developing indigenous capacities in research, and introduction of innovations and technologies in the mainstream. With digitization, efficient manufacturing of vaccines and development a rapid delivery mechanism, India achieved 90% coverage within a year. The boost of technology is an accelerator which is gradually pushing India towards achieving the status of being a developed nation as envisioned by the Hon'ble Prime Minister”.

During the course of this validation exercise, scientists identified the challenges in timely delivery of blood and blood products especially in the remote areas and congested metropolitan cities of India and assessed the quality and integrity of fragile bodily fluids such as blood due to the impact of drone's movement. The investigators from LHMC, GIMS and IIIT will further conduct drone flights for validating the quality of packed red blood cells, fresh frozen plasma, platelets in this study. The findings of this study will provide scientific evidence from India for examining the impact of drone transportation on blood products. This study will lead to development of

SOPs for wider applicability and use of drones for delivery of blood bags and the components. Additionally, it will provide answers to whether drones shall be used as a method of transportation for temperature sensitive food products in remote locations of the country.



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(Release ID: 1923159) Visitor Counter : 626

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