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Drone trial to expedite medical deliveries in remote NT Aboriginal community.

A groundbreaking pilot project run by Northern Territory-based researchers will use drone technology to deliver medical supplies to remote Aboriginal communities in West Arnhem, improving healthcare access and ensuring faster delivery of critical medications. Led by the North Australia Centre for Autonomous Systems (NACAS) at Charles Darwin University (CDU) in collaboration with the Red Lily Health Board, the three-month trial will assess the effectiveness of BiBi planes (aka drones) in overcoming geographic and logistical barriers that cause significant delays and high costs in medical transport to remote communities.

The project will establish a 56.7 km "airbridge" between Jabiru and Gunbalanya, using BiBi planes to deliver medical supplies from the Jabiru Health Centre directly to the Gunbalanya clinic as well as transporting pathology samples back to Jabiru. Upon arrival, trained staff will offload the supplies, change the drone's battery, reload new cargo, and return the plane to Jabiru—streamlining a process that can take many hours into less than 30 minutes. With approval from the Civil Aviation Safety Authority (CASA) and extensive community and Land Council consultations completed, this marks the first time cargo delivery drones will take-off and land from remote Aboriginal communities in Australia.

Gunbalanya regularly faces severe road disruptions due to seasonal flooding of the East Alligator River and relies on costly manned aircraft from Darwin for medical transport. This project will bypass those challenges, ensuring faster and more efficient delivery of critical health supplies, including temperature-sensitive medications. The BiBi planes can carry up to 3kg and fly 80km at 100km/h.

After this trial the research team hopes to secure future funding to scale up the size and weight of the cargo they can carry and the range the Bibi Planes can travel, opening up the technology to a greater number of remote communities and outstations.

Managed by Professor Hamish Campbell, in partnership with the Red Lily Health Board and Flyfreely, the trial is funded thanks to more than $796,000 from the Australian Government's Emerging Aviation Technology Partnership Program. It builds on four years of research conducted by the NT Department of Health, iMOVE Cooperative Research Centre, and CDU into integrating Remotely Piloted Aircraft Systems (RPAS) into remote health care delivery. The 3-month proof-of-concept trial, launching August 1, coincides with Red Lily Health Board taking over management of health service delivery at the Gunbalanya Health Centre. An Advisory Board of community members, health service professionals, and aviation experts will guide its implementation.

Quotes attributable to Professor Hamish Campbell, Project Lead, NACAS, CDU:

"This project aims to streamline a complex, multi-step delivery process into a single, direct flight. After years of research and regulatory navigation, we're now ready to prove that drone technologies can be successfully deployed in remote Australia—and that it has the potential to transform healthcare delivery to our remote communities."

"The collaboration between the research team, Red Lily Health Board and the Traditional Owners has been the key to the success of this program so far. Gunbalanya is an ideal location for this trial, and will enable us to assess how BiBi plane integration can reduce the costs and improve the efficiency of remote health service delivery. We're grateful for the support of the Red Lily Health Board in ensuring this technology is used safely, effectively, and with cultural sensitivity."

“Many people will have read about drones delivering blood and other medical items in Africa and other developing countries. We know last-mile drone services reduce wastage and improve health outcomes. However, the drone networks flying in Africa are not readily transferable to Australia due to our far stricter aviation regulations and the much greater distances the drones need to travel to be effective. Thus, we had to develop our own solution. By investigating the scalability of BiBi plane operations across West and East Arnhem, we can hopefully provide a blueprint to effectively integrate drone medical deliveries into remote healthcare delivery across Australia.”

Quotes attributable to Brad Palmer, CEO, Red Lily Health Board:

“Red Lily is proud to be part of this pioneering project, which will allow us to learn first-hand what is possible by integrating drone technology into our remote health service delivery. Through cultural consultation and community-led decision-making, we’ve worked with the CDU research team to embrace innovation while respecting our traditional settings.”

“At this time of year, road access to Gunbalanya is severely restricted, meaning all medical transport must be done by plane—which is a hugely expensive and inefficient process. Reducing the response time from two days to 30 minutes could be life-changing. We are excited by the doors this project could open for our region and the Gunbalanya community shares that excitement.”

Quotes attributable to Dr John Paterson, CEO, AMSANT:

“This innovation could be game-changing for remote Aboriginal healthcare. Faster medication access and quicker pathology results directly address the health inequalities caused by remoteness.

“The learnings from this three-month project can work to build a sustainable, cost-effective and culturally appropriate solution to medication delivery in some of our hardest to reach communities, ultimately contributing to better overall health outcomes for Aboriginal people and communities. We congratulate CDU and the Red Lily Health Board for their cooperation and commitment to community consultation in the design of this project.”

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