Can Drones Support Aeromedical Operations in Remote Australia?



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Prof. Hamish Campbell

Centre Director

NACAS
North Australia Centre for Autonomous Systems

Acknowledgments

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The Rigi-Tech Eiger UAS

- 21 kg weight | 2.8 m wingspan
- Vertical take-off & landing
- Battery powered
- Cargo 3 kg (15 litres)
- 100 km range
- 4G/5G, Satellite, C2-link
- QR code Precision Landing
- Detects and avoids other aircraft
- Parachute deployment



Red Lily Aboriginal Corporation Health Board



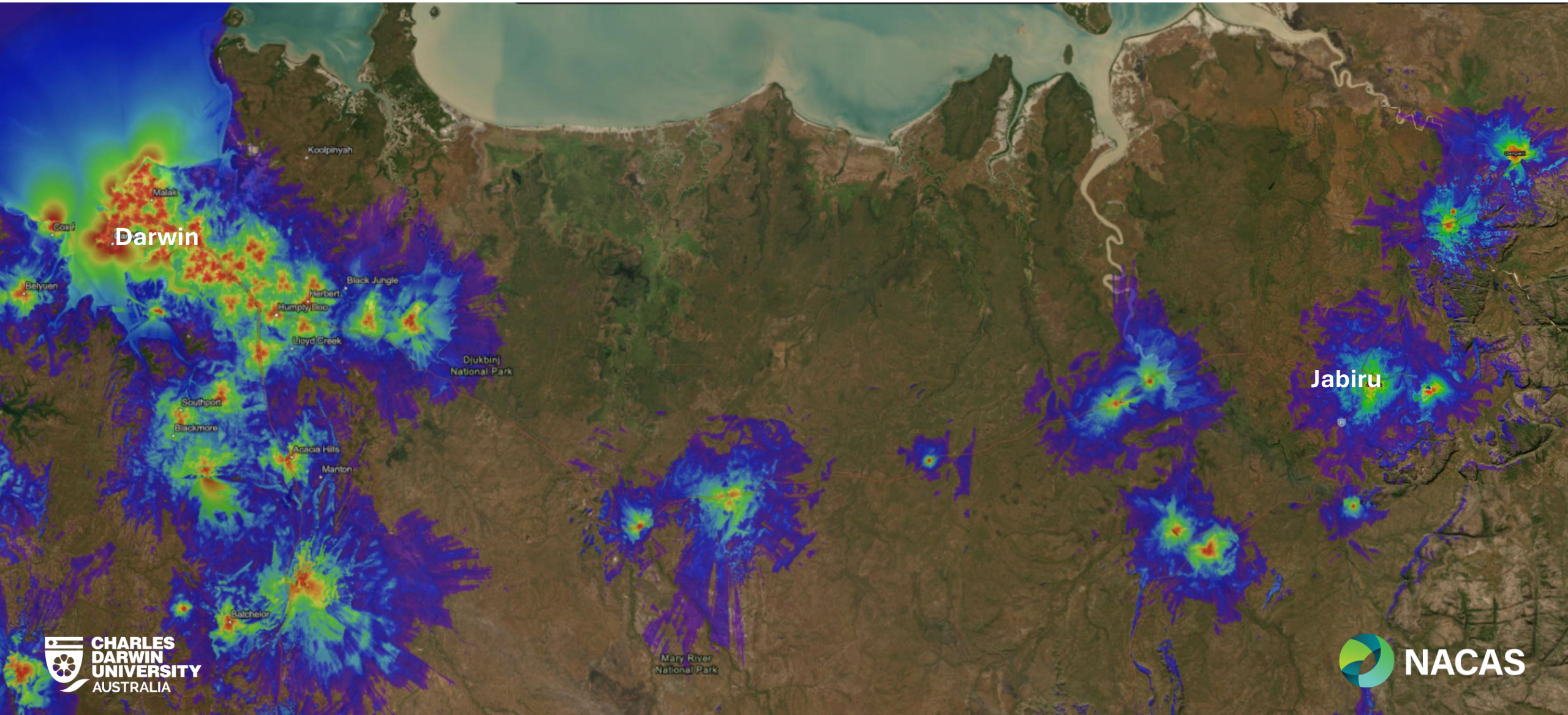
RED LILY HEALTH BOARD
WORKING TOGETHER FOR BETTER HEALTH IN WEST ARNHEM



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Top-End Mobile Network Coverage



The East Alligator Medical Airbridge

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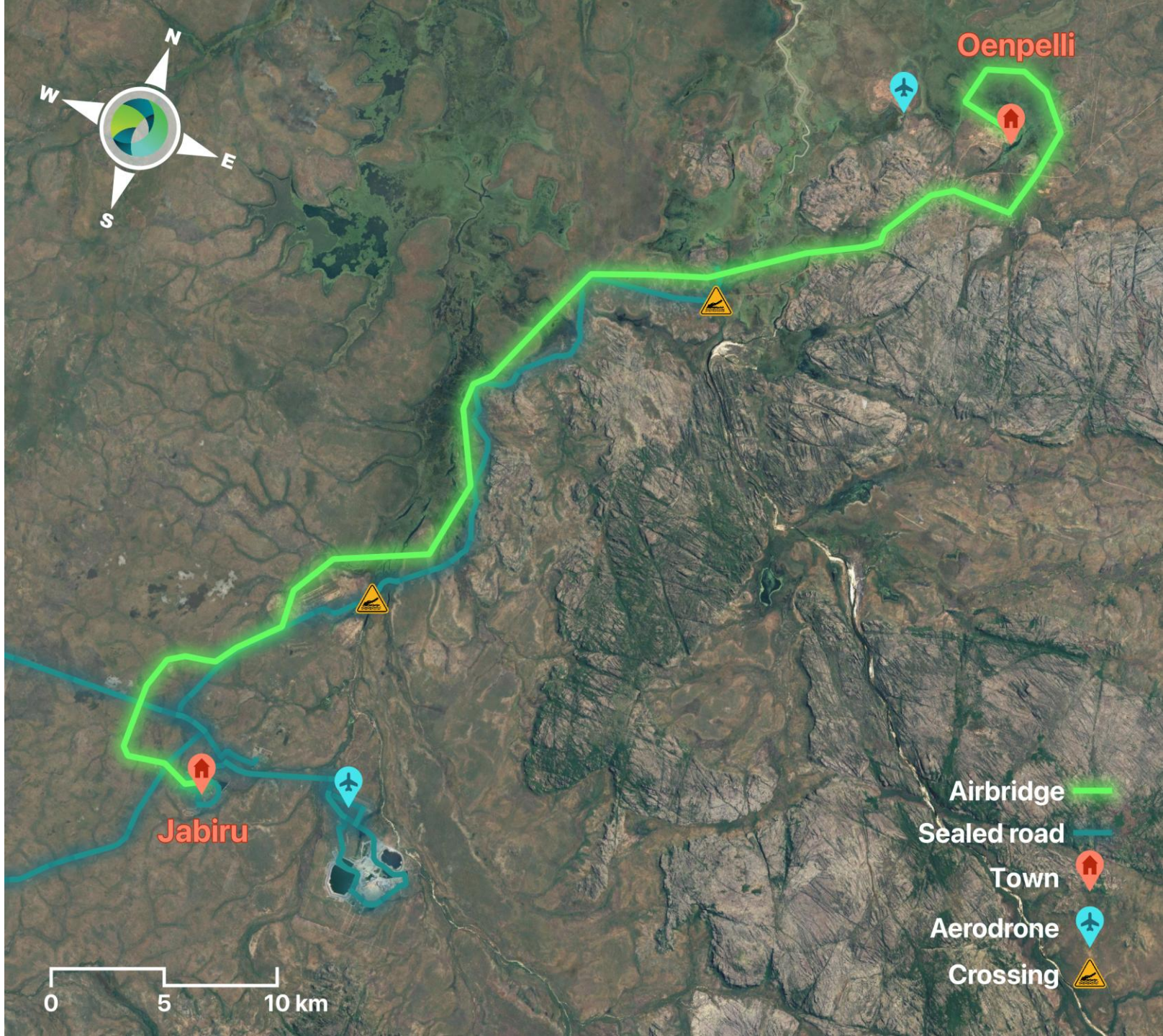
NORTHERN TERRITORY GOVERNMENT

Royal Flying Doctor Service
SOUTH AUSTRALIA & NORTHERN TERRITORY

iMOVE

Australian Government

RED LILY HEALTH BOARD
WORKING TOGETHER FOR BETTER HEALTH IN WEST ARNHEM





The Positives

- Improved access to time-critical medicines
- Reduced transit times (↓ 50%)
- Maintained cold-chain integrity
- Decarbonisation of transport (~520 kg CO_2/100 kg cargo)



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The Negatives

- High staffing costs
- Shortage of experienced crew
- Limited options for comms.
- Regulatory misalignment
- Public perception



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Where Does The Research Needs To Go Now

- Understand where UAVs fit into current aeromedical networks.
- Build infrastructure and compliance to centralise operations.
- Achieve compliant and safe flights at lower costs.
- Accredited training curriculum.
- Government or investors need to fund a 12 to 24 month trial.

Evidence from Other Countries

- ▷ 67% reduction in blood wastage
- ▷ 60% reduction in medicine wastage
- ▷ 51% reduction in maternal deaths
- ▷ 65% reduction in hospitalisations

Sources: The Lancet (2022), Science Robotics (2023), Vaccine (2023)



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Thank you

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RPAS@cdu.edu.au
Hamish.Campbell@cdu.edu.au

nacas.net
cdu.edu.au/nacas