



THE PROBLEM

Currently, long-range imaging is undertaken internationally, with no sovereign offering. All sovereign tracking capability is related to radar systems.

Imaging systems provide significant advantages over radar:

- Operate across all altitudes and velocities.
- Yield significantly more information than simply location (radar).
- Design of instrumentation with high fidelity data analysis is limited.



THE SOLUTION

This project aims to develop ground and drone-based imaging capabilities to enable the tracking and triangulation of test objects.

- Develop and deploy long-range imaging and tracking hardware at launch facilities.
- Develop and implement a communications and sensor fusion system.
- Integrate a drone-based observation system to expand imaging options.
- Develop the triangulation algorithms for data analysis.
- Observe rocket launches and generate real-life data and imagery.



RESEARCH CAPABILITY

UniSQ - Centre for Hypersonics and Rocketry

This centre hosts the longest duration supersonic to hypersonic wind tunnel in Australia. The tunnel permits: hypersonic aerodynamics, free-flight aerodynamics, supersonic combustion, proximal body separation, heat transfer, hypersonic control, and fluid-structure-interaction experiments.

Supported by high-speed flow visualisation techniques and instrumentation methods.



PROJECT PARTNERS



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