



THE PROBLEM

There is a large barrier to entry for the emerging Australian space industry to design successful and performant hypersonic systems, due to

- Limited access to hypersonic ground test facilities.
- High costs associated with system level flight tests.
- Limited design heritage.

Advanced simulation tools can address these challenges but the capability requires validation and an experienced userbase.



THE SOLUTION

This project aims to develop and validate ANSYS workflows for simulating hypersonic phenomena and/or missions. It seeks to demonstrate the utility of ANSYS products in analysing and designing hypersonic systems.

Additionally, the project aims to expand an experienced user base trained in advanced simulation tools, thus supporting Australia's emerging space/aerospace industry while exploring the boundaries of simulation capabilities.



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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CONTACT DETAILS - PROJECT LEAD

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