

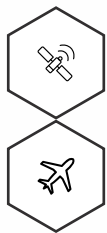
VIPAC

Engineers & Scientists

Leading Aerospace &
Commercial Qualification
Testing Services Australia



Aerospace



Established in 1973, Vipac Engineers & Scientists has organically grown to become one of Australia's leading engineering testing laboratories and consultancies. Proudly Australian owned and operated, the company specialises in;

- > **Aircraft** - structural, noise, load, and simulation testing;
- > **Marine vehicle** - hull strength, radiated & internal noise, and speech intelligibility;
- > **Land vehicle** - systems & weapons development, remote & collision detection sensors, and condition monitoring; and
- > **Spacecraft** - microsatellite, ground station, rocketry, instrument, and payload testing.

By specifying Vipac, you will be taking advantage of the company's appropriately qualified personnel with security clearances up to NV1. Vipac also boasts invaluable experience, having worked with the Australian Government since 1992, and having garnered a reputation for quality which extends to presenting at prime industry forums.

Vipac's defence & space qualification services comprise facilities in Melbourne with onsite consulting from Brisbane, Adelaide, and Sydney. This enables the company to provide a one-stop, high-quality service. Vipac offers a suite of vibration & shock testing options in Melbourne.

Above: Vipac provides satellite design, dynamic analysis, development, integration and testing services.

Left: The Joint Strike Fighter, F-35A, was subject to airframe structural design, FE analysis, and testing by Vipac.



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Vibration & Shock Testing

- > Electrodynamics shakers up to 60kN force, and with a maximum displacement of 76mm peak-to-peak.
- > Hydraulic shakers for payloads up to 2,000kg and with a maximum displacement of 150mm peak-to-peak.
- > Multiple medium high-force shakers up to 32kN force.
- > Vibration controllers include sine, random, classical, sine-on-random (SOR), random-on-random (ROR), shock response spectra (SRS), and resonance track & dwell.
- > 1Hz to 3kHz vibration.
- > Up to 120kN shock.



Acceleration Testing

- > Up to 30g acceleration with 130kg payloads (including fixtures).
- > Slip rings enable functional testing whilst rotating.
- > 750mm² test bed footprint.
- > Max. vertical clearance of 560mm and max. horizontal clearance 110mm.



High Altitude Testing

- > Up to 21,000m (70,000ft) and <5kPa (absolute).
- > Controlled pressure ascent and descent ramp rates.
- > Can be combined with high and low temperatures.
- > Suitable for both commercial and defence & space assets.



Temperature & Humidity Testing

- > A wide temperature range from -70 to +180°C; Relative humidity from 2 to 99%.
- > Fast ramp rates exceeding 6°C/min.
- > Variety of chamber sizes from 1m² to over 50m².
- > Suitable for both commercial plus defence & space assets.
- > Liquid testing.



High Amplitude Shock Testing

- > For payloads up to 450kg, with a table size of 1200 x 1200mm.
- > Up to 600g and 2ms high amplitude shock acceleration levels.
- > High velocity SRS testing (suitable for naval assets).
- > All common shock pulse shapes catered for.





Left: Vipac provides vital salt spray & corrosion resistance testing.



Salt Spray/Corrosive Atmosphere Testing

- > Assessment of equipment in harsh atmospheres.
- > Ideal for the comparison of coatings or anodizing on hardware.
- > For marine assets or the evaluation of materials.



Mechanical Load & Fatigue Testing

- > For static and cyclic load ranges up to 20 tonne.
- > Programmable servo-hydraulic controller for extended duration fatigue testing.
- > Force, displacement, and strain gauging measurements available.
- > Common for the testing of automotive, rail, mining, and defence industry assets.



Applicable Standards

- > **Defence & Space**
 - > DEF(AUST)5000
 - > DEF-STAN 00-35
 - > MIL-STD 167
 - > MIL-STD 810
 - > MIL-STD HP BK
 - > NASA & NATO
 - > SpaceX
 - > RTCA/D0-160F
- > **Commercial**
 - > ISO/IEC 17025
 - > ASTM B117
 - > AS 1170.4
 - > AS IEC 60068
 - > AS IEC 60529
 - > IEC 61373
 - > BS EN 50125
 - > BS EN 50155
 - > ISO 16750

Official ELO2 Consortium Partners

Vipac is official partners of the ELO2 Consortium: winners of the federal grant to design, construct, and operate the Australian-made "Roo-ver" that is heading to the moon.

The Roo-ver is a lunar rover on a mission to explore the surface of the moon and contribute to Australia's involvement in the Artemis Program.

The program encompasses the creation of groundbreaking technology, such as the rover, using this technology to collect resources from space, then to ultimately

create a carbon-neutral future for the heavy and mining industries.

Vipac joins BHP, Northrop Grumman, RMIT University, Melbourne Space Laboratory, The University of Adelaide, Inovor Technologies, Element Robotics, Colorado School of Mines, Saber Astronautics, Australian National University Institute for Space, Titomic, and One Giant Leap Australia Foundation in support of the ELO2.

