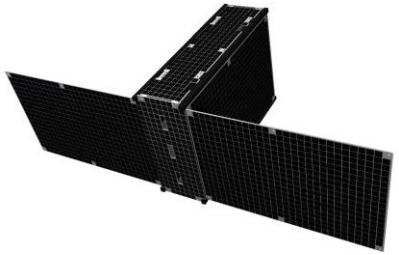
spectrum in the new space context

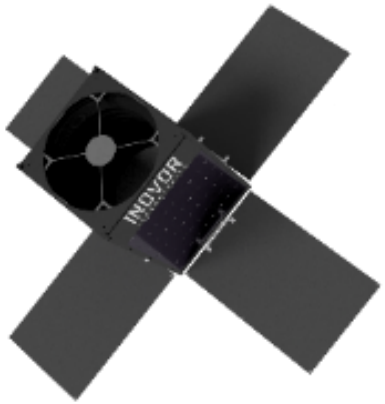
Company Introduction

INOVOR TECHNOLOGIES

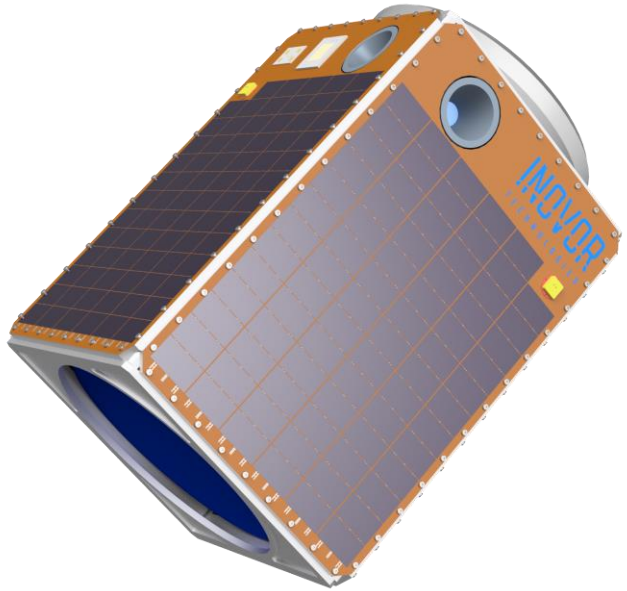
Our people and facilities

‘Apogee’ CubeSat Bus





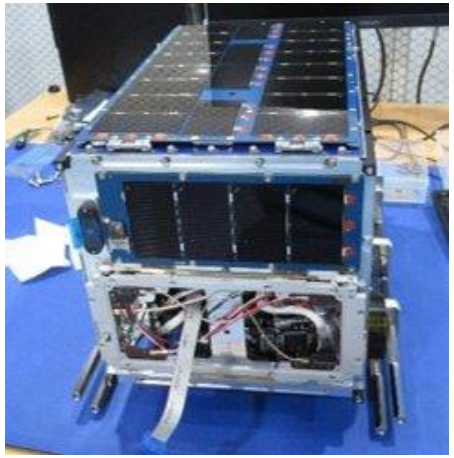
‘Australis’ SmallSat Bus

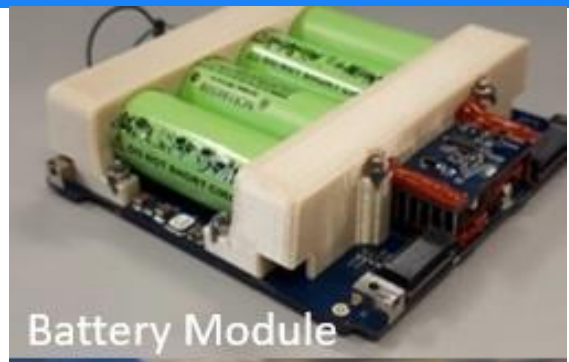


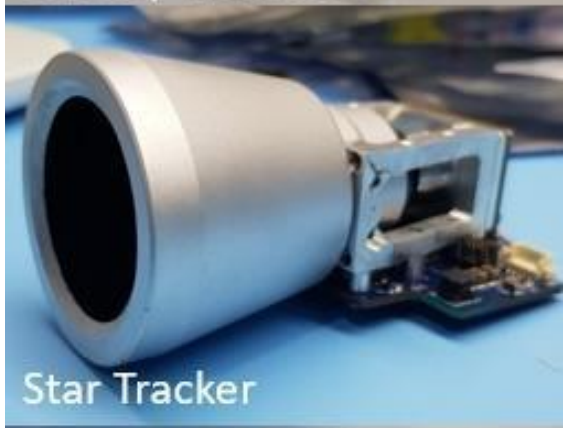
Vertically Integrated

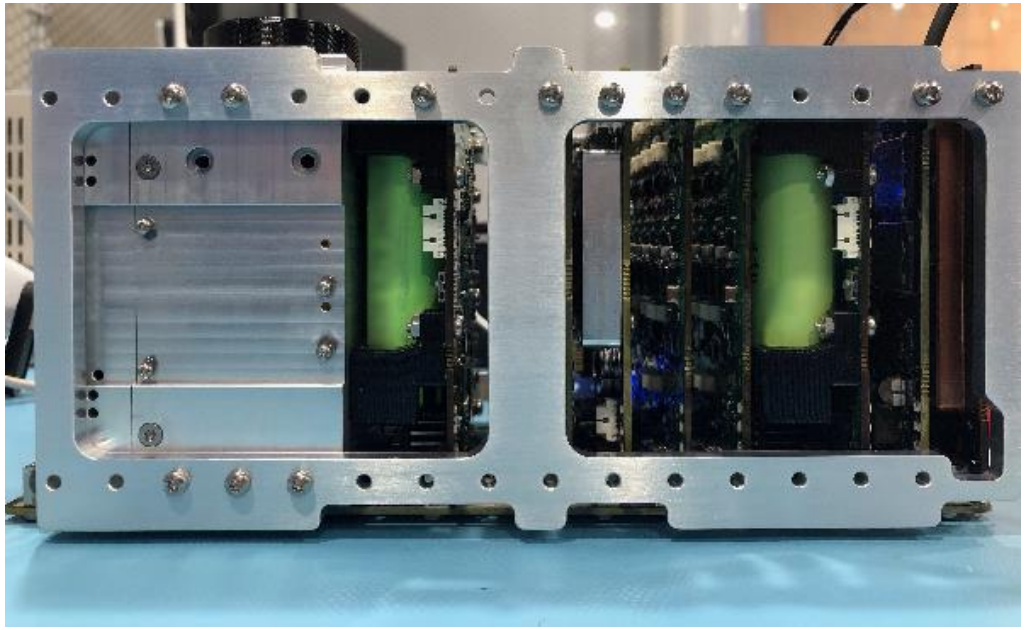
INOVOR TECHNOLOGIES

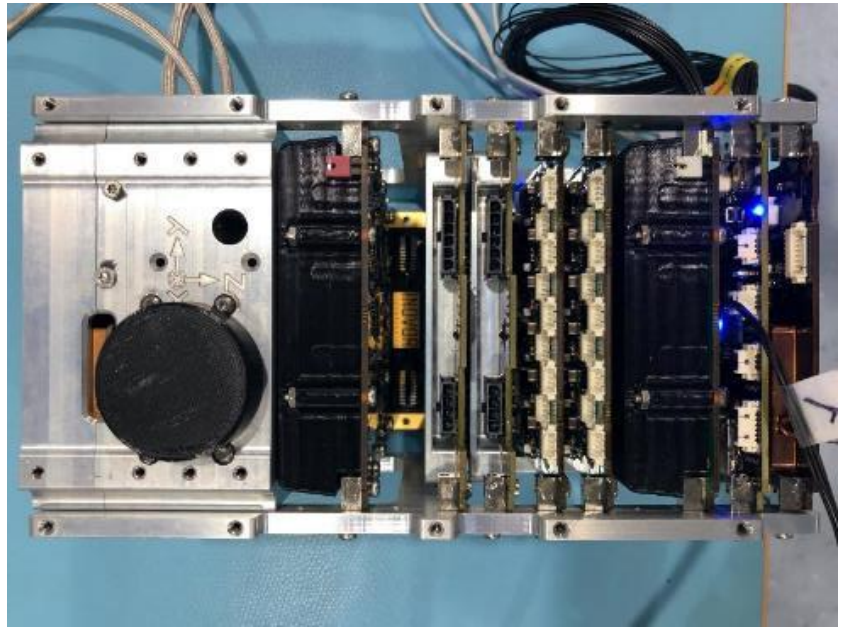
Australian Made











Missions

- **CSIROsat1** – SWIR payload
- **BMM (DSTG)** – HF radar and Optical comms payload
- **SpIRIT (ASA)** – Astrophysics and thermal management payload, propulsion
- **Kanyini (Myriota/SA Gov)** – IoT and Hyperspectral payload (NIR/TIR)
- **Hyperion (Inovor)** – Space Based Space Situational Awareness ground demonstrator

Comms Subsystems

INOVOR TECHNOLOGIES

Common architectures

- UHF (half/full duplex)
- S-band, X-band, a few Ka-band

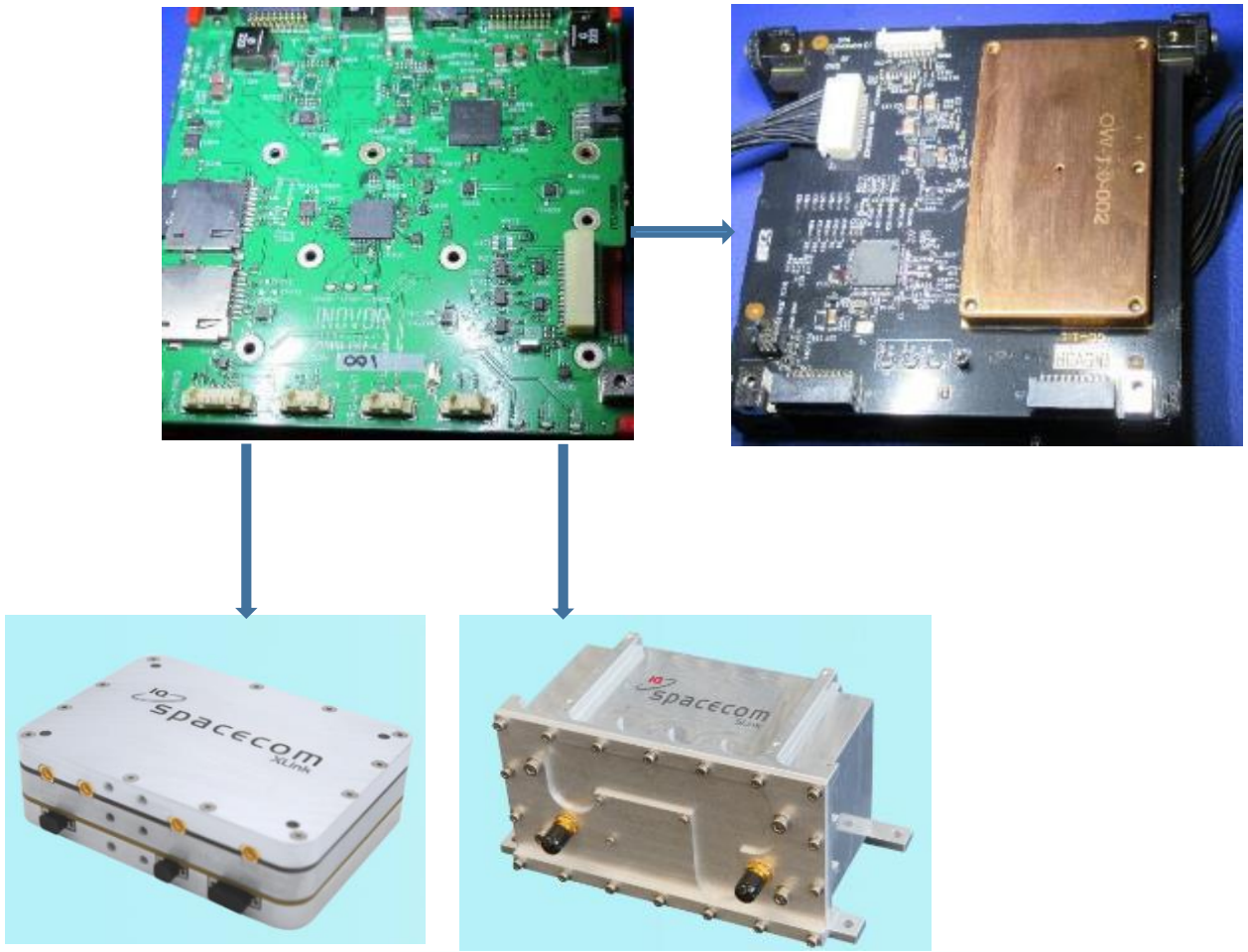
Current Inovor system

- Two comms links on board
  - TT&C – UHF (for now)
  - S-band/X-band

- Either can be used for Data and/or TT&C

What's next

- Ka, Optical, THz



Spectrum Issues

- Spectrum is one of the highest risks on all of our mission risk registers

- Comms testing – we don’t arrange the filing but need to test the comms systems. Difficult to “test as you fly”
  - Long range test critical to retiring risk

- New technical solutions to spectrum sharing – how could spectrum licensing work?
  - Agile frequency hopping technologies
  - Phased array ground stations
  - LEO to GEO links

Thank You