The SNAP Laboratory has led Australian research in satellite navigation for more than 20 years.

Competitive advantage

- Global Navigation Satellite System (GNSS) receiver design and signal processing capabilities, including:
  - Multi-GNSS receivers
  - Interference and spoofing
  - GNSS remote sensing (reflectometry and radio occultation)
  - Precise positioning algorithms
  - Multi-sensor navigation, and the application of navigation technologies for transport
  - Machine automation and unmanned aerial vehicles (UAVs)
  - Satellite missions

Impact

- Improved precision and robustness of satellite and UAV navigation

Successful applications

- Synthetic aperture radar formation flying, Australian Space Research Program
- Unmanned aerial vehicles and their applications
- Improved detection of interference sources affecting Global Positioning Systems
  - GPS and capability and technology demonstrator (CTD)
- Mapping radar for CubeSats
- Successfully commercialised product for geolocating GNSS jammers
- Company spun off to use reflectometry for sea state, target detection

Capabilities and facilities

- Hardware and software test facilities, including GNSS simulators and field-programmable gate array (FPGA) development tools
- GNSS receivers and other navigation sensor technologies
- Access to a wide variety of UAVs

Our partners

- Defence Science and Technology (DST)
- Australian Research Council Training Centre for CubeSats
- Defence Materials and Technology Centre (DMTC)