

5. Maximizing advantage from international knowledge, talent and capital
6. Bold, high-impact initiatives.

By definition space science and technology are drivers of innovation and collaboration between researchers, developers and end users. For example, the Space Weather Service at the Bureau of Meteorology is a world leader in developing research-based space weather applications for civilian and defence use. Space science also excites the public and is a powerful motivator of engagement by students in STEM disciplines. Recognising this, the Decadal Plan for Space Science 2010 – 2019 articulated seven drivers to its vision:

- Develop a sustainable space science capability to produce more world class discoveries and technology
- Lead national space projects with international partners and agencies that position Australians to solve major scientific and technological problems
- Develop a strong national capacity in space science and technology that will benefit the nation in international, economic, and environmental affairs, and offset the risks of depending primarily on foreign-

space objects. This includes US/Australia Defence investments at North West Cape, and the CRC for Space Environment Management. Australia sits longitudinally between North America and Europe, latitudinally south of Asia, and is profoundly radio quiet. As a result the US Strategic Command, NASA and other space agencies have fundamental dependencies on ground stations in Australia. The vast network of ground-based space environment sensors in Australia, Antarctica and elsewhere in our region provides critical input to the world's space weather database. Australia's growing capacity in small satellite technology is evolving into major investments in in-orbit space research capability, such as at UNSW Canberra in collaboration with industry and government partners. Furthermore, funding for an ARC Training Centre for CubeSats, UAVs and Their Applications, at the University of Sydney and involving several industry and agency partners, was announced in June 2017.

These developments mean that space science and associated technology are positioned to drive scientific and technical innovation in areas of national significance which develop and expand multi-disciplinary and cross-sector collaborations, grow new industries, leverage international partnerships, and stimulate development of human capital.

3. ACIL Allen Consulting, The value of augmented GNSS in Australia, Prepared for Dept. of Industry, Innovation, Climate Change, Science, Research & Tertiary Education, 2013, http://www.acilallen.com.au/cms_files/ACILAllen_AugmentedGNSS.pdf