

Australia's history in space

–the story of Australia's contribution to space exploration

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The exploration of space was seen as the greatest adventure of the twentieth century and Australia has played a major part in it.

The information below tells the story of Australia's involvement with space activities from the earliest exploits to the latest Australian endeavours in space and the establishment of the Australian Space Agency.

Year	Description
1945	<p>The British government approached Australia to develop a weapons testing range.</p> <p>Woomera Rocket Range, located in north-west South Australia about 450 kilometres from Adelaide, was established under the Anglo-Australian Joint Project following the Second World War. The equipment used and tested there was at the forefront of defence technology. Between 1957 and 1979, Australia was involved in a number of space projects at Woomera and was considered a leading nation in space activities. The successful launch of the Weapons Research Establishment Satellite (WRESAT) from Woomera in 1967 gained Australia international recognition and membership of the exclusive 'Space Club'. Today the Woomera Prohibited Area (WPA) is a globally unique military testing range covering 122,188 square kilometres. It is the largest land testing range in the world.</p>
1946-present	
1949	<p>First missile tests commence at Woomera.</p> <p>Australian involvement in space activities commenced with participation in the International Geophysical Year (IGY), a global scientific research program focused on understanding the Earth's relationship to its surrounding space environment. The IGY ran from July 1, 1957 to December 31, 1958, and was a significant catalyst for space-related activities in many nations. Sounding rocket launches commenced in 1957. The US Minitrack satellite tracking station opened in 1957 and the Smithsonian Astrophysical Observatory (SAO) optical tracking station opened in 1958. Defence-related space research commenced at Woomera in 1958 with the Black Knight and Jabiru programs.</p>
1957-1958	
1957-1979	<p>Britain's Skylark sounding rocket¹ program would become the longest-operating space project at Woomera, launching British, Australian, European and American scientific instruments. Australian and British researchers made substantial contributions to x-ray, infra-red and ultra-violet astronomy using Skylark rockets.</p> <p>The Australian sounding rocket program (1958–1975), conducted in conjunction with the University of Adelaide, carried out upper atmosphere research that made important contributions to understanding the factors governing Australia's meteorology.</p>
1959	<p>Australia became a founding member of The United Nations Committee on the Peaceful Uses of Outer Space.</p>
1960	<p>The Muchea and Red Lake Mercury Tracking Stations were established. The Island Lagoon Deep Space Tracking Station becomes operational.</p>
1961	<p>The Minitrack and Smithsonian Astrophysical Observatory facilities were incorporated into NASA's STADAN network.</p>
1962	<p>The European Launcher Development Organisation (ELDO) was established and used the Woomera facility to develop the Europa satellite launch vehicle. Ten Europa test flights were conducted at Woomera. Changes to ELDO's plans meant that after 1970 the Europa development program moved to Kourou in French Guiana.</p>
1964	<p>Australia becomes a founding member of INTELSAT, the first global satellite communications network. In 1965, Early Bird (Intelsat I) is launched into geosynchronous orbit. This is the world's first commercial communications satellite and the term "live via satellite" is born.</p> <p>In June 1964, the first test flight of the 'Blue Streak' first stage of the Europa rocket takes place at Woomera.</p>
1965	<p>The Tidbinbilla Deep Space Network Tracking Station opens near Canberra.</p> <p>The Orroral Valley, Spacecraft Tracking and Data Acquisition Network (STADAN) station becomes operational. It was officially opened in 1966.</p>
1966-1967	<p>The US-led SPARTA Project (1966–67) at Woomera donated a spare launch vehicle to Australia and enabled the launch of WRESAT, Australia's first satellite. WRESAT was designed, constructed and launched in only eleven months. Launched on November 29, 1967, WRESAT gave Australia entry into the exclusive "space club" of countries that had orbited a national satellite.</p>

¹ A sounding rocket, sometimes called a research rocket, is an instrument-carrying rocket, designed to take measurements and perform scientific experiments during its sub-orbital flight. Wikipedia

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1966	<p>The first Overseas Telecommunications Commission (OTC) Satellite Earth Station opens at Carnarvon WA, providing the first direct satellite broadcast between Australia and the UK.</p> <p>The Cooby Creek Tracking Station opens and Red Lake Tracking Station closes down.</p>
1967	<p>WRESAT, Australia's first satellite is launched. The Honeysuckle Creek, Apollo Tracking Station opens.</p> <p>Australian-born Dr Philip K Chapman is selected as an Apollo scientist-astronaut, but leaves NASA before making a spaceflight.</p>
1969	<p>At 12.56 pm on 21 July 1969 Australian Eastern Standard Time (AEST), mankind took its 'one giant leap' and 600 million people watched as Neil Armstrong walked on the Moon. The Parkes radio telescope famously supported receiving the television signals on that momentous day. Although many people think the Parkes telescope was the only station receiving the signal, it was the 26-metre antenna at NASA's Honeysuckle Creek Space Tracking Station near Canberra that received the initial TV pictures from the Moon and Neil Armstrong's first steps on the lunar surface.</p> <p>The Joint Defence Facility Nurrungar commences operation near Woomera providing early warning of nuclear missile launches.</p> <p>First test launch of Britain's Black Arrow satellite launch vehicle.</p>
1968	<p>WRESAT, Australia's first satellite, completed 642 orbits and transmitted scientific information for 73 of these to tracking and research stations around the world. It re-entered the Earth's atmosphere and burned up on 10 January 1968 over the Atlantic Ocean west of Ireland.</p>
1970	<p>The Joint Defence Facility Pine Gap commences operation near Alice Springs, providing signals intelligence.</p> <p>The Australis-OSCAR 5 amateur radio satellite is launched, last ELDO launch and the Cooby Creek Tracking Station closes.</p>
1971	<p>ELDO withdraws from Australia.</p> <p>The last British Black Arrow rocket launches the Prospero satellite from Woomera.</p>
1972	<p>The Island Lagoon Tracking Station closes down.</p>
1974	<p>The Honeysuckle Creek Tracking Station transferred to the Tidbinbilla Deep Space Network.</p>
1975	<p>The Australian sounding rocket program ends.</p> <p>The Carnarvon Tracking Station closes down.</p>
1978	<p>The Weapons Research Establishment (WRE), which had managed the Woomera Range since 1955, ceases to exist as an organisation.</p> <p>The Skylark sounding rocket program at Woomera closes down.</p> <p>Australia's Landsat station opens. The Landsat remote sensing program is a joint project of NASA and the US Geological Survey. It has been studying the Earth's surface from space since 1972.</p>
1979	<p>The first Australian Search for Extra Terrestrial Intelligence (SETI) program is conducted at the Parkes radio telescope. The search for extraterrestrial intelligence is a collective term for scientific searches for evidence of intelligent extraterrestrial life. For example, it monitors electromagnetic radiation for signs of transmissions from civilizations on other planets.</p> <p>The Anglo-Australian Joint project officially ceases.</p>
1980	<p>The Starlab project commences.</p> <p>First Australian Space Industry Symposium is held.</p>
1981	<p>Aussat is established as Australia's satellite telephone and video via satellite service provider.</p> <p>The Honeysuckle Creek Tracking Station closes.</p>
1984	<p>Australian-born Dr Paul Scully-Power flies on space shuttle mission STS 41G.</p> <p>The CSIRO Office of Space Science and Applications is established.</p>
1985	<p>The Madigan Report, "A Space Policy for Australia" advocates the introduction of an Australian space agency.</p> <p>Aussat 1 and Aussat 2 are launched.</p> <p>The Australian-developed Aggregation of Red Cells (ARC) experiment makes first flight on space shuttle mission STS 51C.</p>

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1986	The Australian Space Board and the first National Space Program are established, to support the development of an Australian space industry.
1987	The Australian Space Office is established and Aussat 3 is launched.
1988	The first Ausroc 1 student rocket is launched by the Australian Space Research Institute.
1989	The Cole Report on Australian space science is produced. Australia joins the COSPAS-SARSAT network—a satellite-aided search and rescue initiative.
1991	The European Space Agency launches the European remote sensing satellite ERS-1. Its Along Track Scanning Radiometer (ATSR) includes components from Australia. The ATSR was designed to observing global sea surface temperature from space to the very high levels of accuracy.
1992	The Australian designed and built Endeavour space telescope flies on the STS 42 Space Shuttle mission. The Australian Space Industry Chamber of Commerce is established.
1993	First successful scramjet engine test by University of Queensland. A scramjet (Supersonic Combustion Ramjet) is a special type of rocket engine that takes the oxygen it needs for fuel combustion from the atmosphere around the vehicle, instead of from a tank onboard. This makes the launcher smaller, lighter and faster.
1995	Project Phoenix SETI search commences at Parkes. The Endeavour space telescope has its second flight on STS 67. ERS 2 launched with ATSR 2, including Australian components.
1996	Australian-born astronaut, Dr Andy Thomas, makes his first spaceflight on STS 77. Australian Space Office and National Space Program terminated.
1998	Australian Space Act and the Space Licensing and Safety Office (SLASO) is established.
1998	Andy Thomas' second mission, STS 89 to Mir Space Station. Thomas completed 141 days in orbit, returning to Earth on STS 91 in 1999.
2001	The first HyShot scramjet test flight is launched. The Australian Centre for Astrobiology is established. Andy Thomas makes his third flight on STS 102.
2002	Australian designed FedSAT (Federation Satellite) technology demonstrator satellite is launched by Japan. Envisat, with the Advanced Along Track Scanning Radiometer, including Australian components, launched by the European Space Agency.
2003	The Australian Government Space Engagement Policy Framework is released.
2005	"Space, a Priority for Australia" report is released, supporting creation of an Australian space agency. Andy Thomas makes his fourth flight on STS 114.
2006	The Advanced Instrumentation Technology Centre (AITC) of the ANU opens at Mt. Stromlo, Canberra.
2007	FedSAT ceases operation.
2009	The Australian Space Research Program (ASRP) commences, funding space education and industry development projects. First Hypersonic International Flight Research Experimentation (HIFiRE) flight, a collaboration on hypersonic flight research between the Australian Department of Defence and the US Air Force. Hypersonic flight refers to flight at speeds above Mach 5 (five times the speed of sound).
2010	Japan's Hayabusa asteroid sample return capsule lands at Woomera.
2013	Australia's Satellite Utilisation Policy released. ASRP terminated.

Year	Description
2017	<p>SIAA Space White Paper released. It argues that the development of a mature and innovative Australian space sector and a level of sovereign space capability underpinned by world class space science and technology should become an urgent national priority.</p> <p>The first Australian Cubesats are launched. They were built by the universities of Sydney, New South Wales and South Australia.</p>
2017	A review of Australia's space industry capability is announced.
2017	The Australian Government announces it will form an Australian Space Agency during the 2017 International Astronautical Congress in Adelaide.
2018	The 'Review of Australia's Space Industry Capability – Report From the Expert Reference Group' is released.
2018	The Australian Space Agency commences operations on 1 July 2018.
2018	The CSIRO launches a report — 'Space: A Roadmap for unlocking future growth opportunities for Australia' — that highlights Australia's unique strengths and geographic advantages to increase Australia's share of the international space sector.
2018	The Australian National University (ANU) and Tohoku University in Japan find a new way of dealing with space junk using a new type of satellite powered by superheated gas.
2018	The ANU Institute for Space, InSpace, is established to bring together technology, science and law research and focus on cross-disciplinary projects to support Australian space business development.
2019	The Australian Space Agency works towards establishing its headquarters in Adelaide.
2019	The Australian Space Agency supports a range of communication and inspiration activities.
2019	Australia celebrates the 50 th anniversary of the Apollo Moon landing

Sources: Dougherty, Kerrie. 2017. *Australia in Space: A History of a Nation's Involvement*, ATF Press: Adelaide, South Australia and Wikipedia.

