

Australian Space Research Program Round 1 – Successful Applicants

Stream A Funding – Space Education and Development Grants

Project title: Pathways to Space: empowering the internet generation

Consortium: The University of New South Wales, The University of Sydney, the Powerhouse Museum and Cisco Systems Australia Pty Ltd

Grant: \$987,574

Project Description: The project will establish a program “Pathways to Space: empowering the internet generation” at the Powerhouse Museum to encourage year 10 to 12 students to consider studying and pursuing careers in space-related science and engineering.

A “living laboratory” will be established at the museum for use by students and links will be established with the Australia Centre for Field Robotics and the Australian Centre for Astrobiology. The program will include in-class preparation, a visit to the museum and post-visit in-class activities.

The project will involve two doctoral and two post-doctoral researchers undertaking their projects in open engagement with high school students. It will also include a longitudinal study to determine the effectiveness of this kind of program in encouraging students into the science and engineering fields.

Stream B Funding – Space Science and Innovation Projects

Project title: Scramjet-based access-to-space systems

Consortium: The University of Queensland, University of Adelaide, AIMTEK Pty Ltd, the Australian Youth Aerospace Forum, BAE Systems Australia, Boeing Research and Technology Australia, Centro Italiano Ricerche Aerospaziali, Defence Science and Technology Organisation, Deutsche Zentrum fuer Luft –und Raumfahrt, Japanese Aerospace Exploration Agency, Teakle Composites Pty Ltd, University of Minnesota, University of New South Wales, University of Southern Queensland

Grant: \$5,000,000

Project Description: The project is the first phase of a stepping-stone-based roadmap to develop a scramjet-based access-to-space industry. A scramjet (supersonic combustion ramjet) is an air-breathing combustion engine which can be combined with rockets to produce a more fuel-efficient hybrid launch system for access to space.

This project aims to answer key scientific and technological questions through both flight and ground tests, leveraging Australia’s world leadership in scramjet research and development.

It will contribute to Australia’s assured and secure access to space and cutting-edge space technology. Importantly, the project will build an industry-ready talent pool for a future Australian scramjet-based access-to-space industry.

Project title: Antarctic Broadband – Definition and Capability Development

Consortium: Aerospace Research Pty Ltd, the Australian National University, EM Solutions Pty Ltd, Environmental Systems and Services Pty Ltd, Joseph Mark Pty Ltd, The Tauri Group LLC, the University of Toronto

Grant: \$2,109,682

Project Description: The project will define and begin development of a broadband satellite communications service aimed at meeting the data transfer needs of the Antarctic community.

The project includes activities to build capacity and expertise in design, implementation and support of small-satellite communications systems in Australia.

Project title: Platform Technologies for Space, Atmosphere and Climate

Consortium: RMIT University, the Bureau of Meteorology, Curtin University of Technology, Electro Optic Systems Space System, GPSat Systems Australia Pty Ltd, National Space Organisation Taiwan, NOAA's World Data Centre for Metrology, the University of New South Wales

Grant: \$2,847,160

Project Description: Advanced platform technologies will be developed for space-related research, including in-space tracking and navigation, precise positioning, space weather, atmospheric modelling and climate monitoring.

New algorithms and enhanced atmospheric models will be developed in the context of new generation navigation and geo-environmental satellite programs to enhance Australia's capability in space research.