



An Australian Government Initiative



## Canberra

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Australia has moved to confront the threat of space debris colliding with satellites in earth orbit by establishing a Cooperative Research Centre (CRC) for Space Environment Management based at Mt Stromlo in the Australian Capital Territory. The CRC, enabled by a \$20 million grant from the Australian Government's Department of Industry, creates a high-technology consortium of aerospace industry companies and includes universities and some of the world's leading space agencies.

The Commonwealth of Australia grant of \$20M over five years supplements \$40M of private investment from the CRC participants, who will also allocate \$90M of new research infrastructure to the CRC. The CRC will develop technologies and solutions to preserve the space environment, on which all modern societies depend heavily.

The CRC research team members are:

- The Australian National University [Australia]
- Lockheed Martin [USA]
- EOS Space Systems [Australia]
- NASA Ames Research Center [USA]
- National Institute of Information and Communications Technology [Japan]
- Optus [Australia]
- RMIT University [Australia]

The Space Environment Management CRC will build on Australian expertise in measurement, monitoring, analysis and management of space debris to develop new technologies and strategies to preserve the space environment. This will deliver significant social, environmental and economic benefits for Australia, as well as long-term commercial applications for the Australian space industry.

Professor Mary O’Kane, the Chair of the Board of Directors of the CRC said: “I am delighted to be associated with this innovative program. We believe its work is fundamental to Australian society and our economy.”

Australia is amongst the world’s most space-dependent nations due to its reliance on space technology to deliver security and services to a small population dispersed across an entire continent. Our access to space capabilities is threatened by the growing risk of satellite collisions with space debris. This risk to individual spacecraft will, if space collisions continue on current trend, threaten the viability of the entire space environment for human use. The CRC will build on world-leading Australian innovations to reduce and ultimately prevent the loss of satellite capability.

The CRC will bring together expertise and resources from leading universities, space agencies and commercial research providers and develop research programs to:

- track space debris more often and more accurately;
- improve predictions of space debris orbits; and
- predict and monitor potential collisions in space.

This information will initially be applied to reduce collisions, and ultimately to reduce the debris population.

Dr Ben Greene, the Chief Executive Officer of the CRC said: “There are now more than 300,000 pieces of debris in Earth orbit. There is now so much debris that it is colliding with itself, making an already big problem, even bigger. A catastrophic avalanche of collisions that would quickly destroy all satellites is now possible.

“Our initial aim is to reduce the rate of debris proliferation due to new collisions, and then to remove debris by using ground-based lasers. The preliminary research has already been performed by the individual CRC participants over the past decade, and we will now work together in the CRC to drive the program forward,” Dr Greene said.

The CRC research will be largely focussed at Mount Stromlo Observatory in the Australian Capital Territory where a series of Australian government-university-industry programs have led to major breakthroughs in space debris tracking over the past decade. The maturity of this tracking technology and the significant investment in infrastructure essential for extending this research are key reasons why leading international programs will be continued from Australia.

Mr Rod Drury, the Chief Operating Officer of the CRC said: “There have been strenuous efforts in many countries over the past decade to develop space debris mitigation technology. The CRC brings together, for the first time, leading debris mitigation programs from around the world to create a team with the required critical mass of researchers, technology, funding and equipment. The resource commitments for the CRC have come from every tier of space activity and are an indication of the international importance of this initiative.”

The CRC will be fully operational from mid-2014.

For further information please contact:

- CRC for Space Environment Management

Dr Ben Greene CEO. Ph. +61 414 365 658

- The Australian National University

Professor Matthew Colless. Ph. +61 2 6125 0266

- Lockheed Martin Australia

Mr. Rod Drury Ph. +61 447 787 388

- EOS Space Systems

Dr. Craig Smith Ph. +61 414 365 368

- RMIT University [Australia]

Dr Steve Gower. Ph. +61 3 9925 4743