



LEVERAGING SPACE TO DRIVE INNOVATION

ZERO-G Manufacturing (CRC) will drive the acceleration of access to space innovation by leveraging space through unifying projects that increase sovereign space manufacturing and support space capability infrastructure.

ZERO-G Manufacturing CRC is a pioneering \$100 million, 10-year initiative aimed at accelerating the development of a sustainable, multi-billion-dollar space-enabled manufacturing economy in Australia.

By leveraging routine access to and return from space, the CRC seeks to position Australia as a global leader in sustainable space-based innovation and advanced manufacturing.



WHY MANUFACTURE IN SPACE NOW – AND WHY AUSTRALIA?

Manufacturing in space is no longer a distant possibility – it's a present-day opportunity. Microgravity environments, such as those aboard the International Space Station, have proven to enable the creation of novel materials and products that are difficult or impossible to produce on Earth. For example, gravity-free conditions allow for more stable crystal growth, unlocking breakthroughs in pharmaceuticals, semiconductors, and optical technologies.

At the same time, the cost of accessing space has dropped significantly, thanks to innovations in launch systems and the rise of commercial space providers. These developments have opened the door to scalable, economically viable space-based manufacturing.

Australia is uniquely positioned to lead this transformation. With strong capabilities in advanced manufacturing, a rapidly growing space sector, and geographic advantages for launch and re-entry,

WHY BUILD A CRC?

The Cooperative Research Centres (CRC) grant is a Government Flagship Program, established in 1990, to foster collaboration between industry, academia and government; drive innovation and address complex challenges. CRC grants provide funding for long-term collaborative research programs that will help solve major problems or issues facing industry.

CRCs are funded for up to 10 years and are awarded to consortiums through competitive, merit-based funding rounds. By focusing on end-user engagement, CRCs close the gap between research and industry uptake by translating research into practical commercial applications.

VISION FOCUS AREAS: HOW WE WILL DRIVE IMPACT

ACCELERATE COMMERCIALISATION PIPELINES

By expanding and maturing a pipeline of product business cases, the ZERO-G Manufacturing CRC lays the foundation for a thriving space-enabled economy.

Targeting adjacent sectors such as pharmaceuticals, life sciences, optical technologies, and Defence ensures broad market relevance and cross-sectoral innovation, driving economic diversification and resilience.

ADVANCE MANUFACTURING INNOVATION

Developing novel manufacturing platforms and technologies directly supports the creation of high-value, export-ready products.

These innovations will enable Australia to compete globally in emerging space and terrestrial markets, reinforcing ZERO-G Manufacturing CRC's goal of building a robust, future-facing manufacturing sector.



ENABLE SAFE AND SUSTAINABLE RE-ENTRY

Routine and reliable return from space is a critical enabler of space-based manufacturing.

By investing in advanced simulation, detection, and recovery technologies, the ZERO-G Manufacturing CRC ensures that Australia can safely retrieve manufactured goods and scientific payloads, unlocking commercial viability and operational scalability.

FOSTER SOCIAL LICENCE AND INCLUSION

Building trust and engagement—especially with First Nations communities—is essential for long-term sustainability and national support.

Inclusive participation ensures that the benefits of the space economy are widely shared, aligning with the ZERO-G Manufacturing CRC's commitment to ethical innovation and social responsibility.

DEVELOP FUTURE TALENT

A skilled workforce is the backbone of any advanced industry. The ZERO-G Manufacturing CRC's education and workforce development program ensures that Australia has the talent pipeline needed to deliver on its research agenda and sustain growth in the space-enabled manufacturing sector for decades to come.



space.crcbid@anu.edu.au



Australian
National
University

Institute for Space