

Australia's UniSQ leads space agriculture innovation with AI-driven plant health monitoring

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The University of Southern Queensland's (UniSQ) iLAUNCH Trailblazer initiative is working with international partners Axiom Space, Yuri Gravity, and Medicinal Harvest to create an autonomous system for monitoring plant health in space.

This project involves testing plants in a flight-certified growth chamber using advanced machine vision techniques. The system, supported by an AI algorithm, can detect early signs of plant stress through regular camera footage, enabling remote monitoring and optimization of plant health. The technology aims to support sustainable food production in space and has potential applications for terrestrial farming. The AI algorithm technology is developed by Associate Professor Cheryl McCarthy from the UniSQ Centre for Agricultural Engineering.

"This technology allows us to monitor plants in space conditions and optimise plant health remotely, which is a vital step toward sustainable food systems beyond Earth," Professor John Bell, Deputy Vice-Chancellor of Research and Innovation at UniSQ said

Queensland's involvement in this initiative was highlighted during a trade mission to Taiwan and Japan, which included a showcase at the World Expo 2025 in Osaka. The mission emphasized collaboration in education, research, and

commercialization, aligning Queensland's strengths with global opportunities.

International education remains a significant sector for Queensland, contributing \$6.85 billion annually and supporting around 30,000 jobs. With over 112,000 international students from more than 160 countries, Queensland's education sector offers diverse opportunities for professional and personal growth through its research institutions and industry-focused programs.

With more than 350 world-class education providers and globally recognised research institutions, Queensland offers international students an ideal environment to grow professionally, personally, and globally through industry-aligned programs, vibrant student communities and global research leadership.