SUSTAINABLE ORCHARD OF THE FUTURE

PARTNERS

AGRICULTURE VICTORIA

RMIT UNIVERSITY

THE UNIVERSITY OF QUEENSLAND AUSTRALIA

IN SHORT

This Food Agility CRC project delivered a user-friendly digital twin platform that allows producers to visualise their orchards and analyse real-time data. This digital infrastructure enables stakeholders to better understand their physical assets.

"This project established a foundational digital infrastructure for the next generation of horticulture. It informs sustainable plantings and opens vital new pathways for studying agrivoltaics and robotics in complex agricultural settings,"

Prof. Chi-Tsun (Ben) Cheng, RMIT University

THE CHALLENGE

The adoption of innovative farming practices can be resource-intensive, requiring significant time and capital. For an industry eager to improve sustainability and adapt to a changing climate, these barriers often hinder the integration of advanced technologies such as renewable energy and automation.

OUR APPROACH

The research team developed a data-driven digital twin model that provides immersive 3D visualisation and comprehensive seasonal data analysis, enabling stakeholders to better understand and manage their assets. By combining plant physiology with radiation models, the platform helps producers remain climate ready.

LEARN MORE

Crucially, this model acts as a 'digital sandbox'. It has already enabled the comprehensive research and modelling of agrivoltaics configurations and provides the necessary architectural foundation for the future integration of robotic systems. The platform's flexibility ensures it is future-proof, facilitating the easier adoption of emerging agtech and helping to redefine the sustainable orchard.

foodagility

Australian Government
Department of Industry, Science and Resources

Cooperative Research Centres Program