Global Digital Farm

2025

Charles Sturt University

AGRIPARK AGRISCIENCES RESEARCH AND BUSINESS PARK

Vision and Objectives

The Global Digital Farm will accelerate the development and adoption of agriculture technologies by providing a platform for knowledge transfer and dissemination.

- Be a leader in the dissemination of information related to agricultural technology development, data utilisation, and adoption of practices to improve productivity, profitability and sustainability of food production
- Develop a collaboration network that will accelerate the development and adoption of technologies and practices in agriculture
- Provide training and learning opportunities for producers, agronomists, technology developers, researchers, educators and students
- Validation of technologies and disseminate third-party, independent evaluations of agricultural innovations.
- Develop secure and reliable data for researchers, educators. students, producers, industry and technology developers to further the development of insights and tools that drive data based decision making
- Accelerate the development and adoption of agriculture technologies to assist producers in managing their production, improving the productivity and sustainability of their farms.

A 2,000-hectare living laboratory where cutting edge technology and traditional farming unite

- Satellite and remote sensing
- Digital Livestock Programs
- Technology, automation and robotics
- Farm data systems and management
- Decision Support Tools
- Vineyard of The Future
- Beef and Sheep feedlots
- Cropping & pasture trials
- Soil carbon systems
- Regenerative agriculture
- Natural capital accounting

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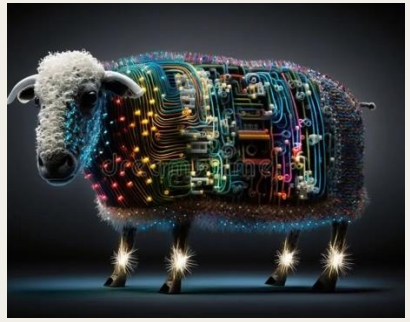
Digital Livestock Programs

Empowering livestock producers through validated digital solutions that transform farm data into profitable decisions. In partnership with farmers and technology companies, we're creating a smarter, more sustainable future for livestock production that enhances animal welfare and drives farm profitability.

Optiweigh & GreenFeed

Virtual Fencing

AI 4 Animals



AutoMed

Methane Reducing feed additives

Managing Heat loads in Feedlots

Soil & Irrigation

Rhyzolisimeter

The largest root growth and soil water research facilities in the Southern Hemisphere.

The Irrigation Laboratory
Optimising irrigation design for energy & water efficiency.

Combined with over 150 soil moisture sensors across 2000hac

Farmbot water management

Remotely monitor your operations ensuring livestock access to water to reducing manual checks, improve efficiency and reduce costs.

The Cool Soil Initiative

Supporting farmers in exploring their practices to improve the health of their soil, increase their yield, and reduce on-farm greenhouse gas emissions

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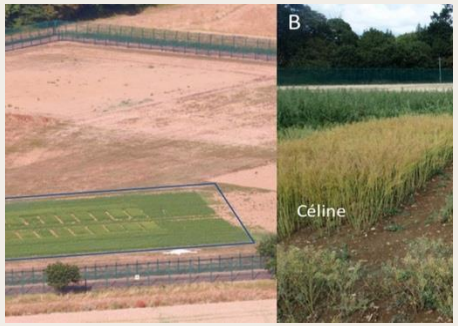
Digital Plant and Cropping Programs

Empowering producers through an adapt, test and validate program and a technology and digital lens that informs data driven decision making on farm. We have programs and partnerships with farmers, researchers, industry and technology companies, we're co-creating a more productive and profitable and sustainable agriculture sector.

Vineyard of The Future

Satellite Yield Estimation

Long Term cropping trials



Cool Farm Tool

Bio Solutions

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Data and Resource Optimisation

Optimising data, resources and operations that enhance animal welfare, resource efficiency, and farm productivity, profitability and sustainability.

The Digi Twin Program

15 industry driven PhD students and their supervisors all working on the same themed program together to create agriculture digital twins and models that will not only solve the problems of today but provide the base for the solutions of tomorrow.

Near Earth, Aerial and Terrestrial Sensing

Remote monitoring, from satellites, aeroplanes or drones supported by on the ground sensors for better crop and livestock management, yield and quality. as well as pest, diseases and weeds, for improving day to day operations.

The Australian Agricultural Data Exchange

The AADX enables the agricultural industry to share, discover, merge and re-use data in a secure cloud environment. The AADX assists in facilitating the transfer of production and value chain data via a data marketplace.

Renewable Energy COE

Renewable energy production on farm that coexists and adds value to agriculture. Is addressing the increasing climate change risks, increasing energy access and running costs while aligning with GHG reduction targets.

Bringing It All Together

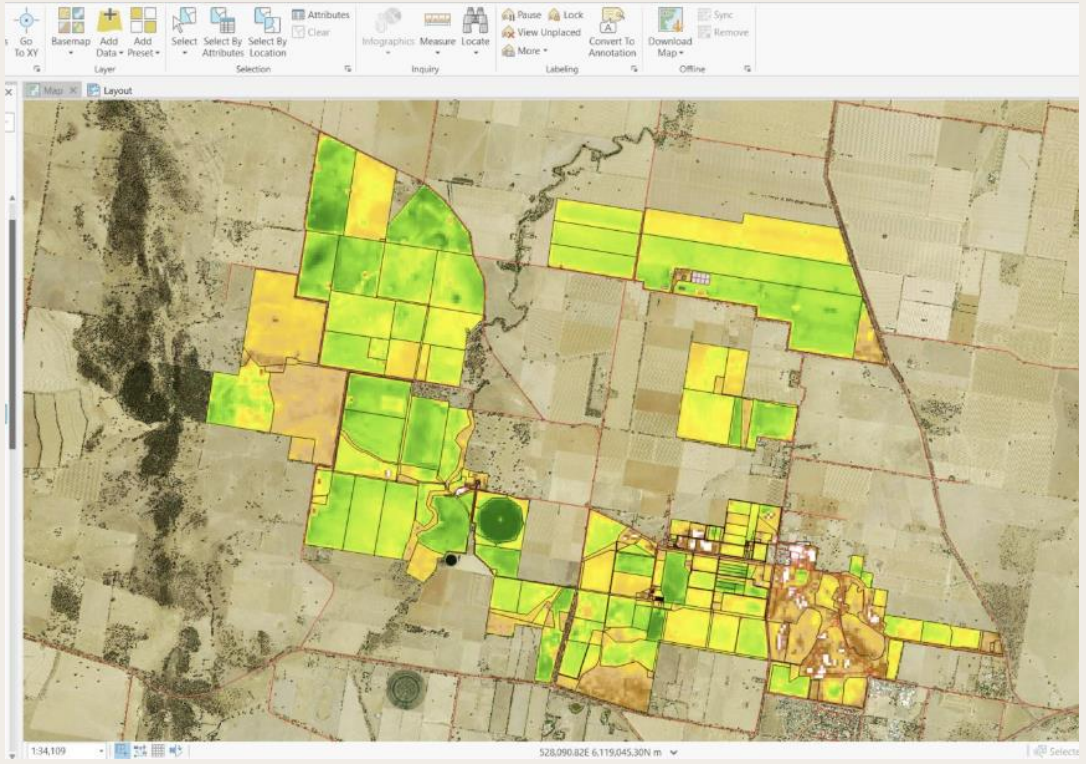
The Global Digital Farm

1. Applying technology and capturing its data in a real world scenario, is the first step in establishing a digital farm.

2. Aggregating and connecting the data to help farm managers make informed decisions based on real information that drives farm productivity, profitability and sustainability.

3. Applying tools such as machine generative learning and AI to create new learnings and new models for agriculture.

4. Scale and extend globally through network and collaboration



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Pioneering Tomorrow’s Agriculture Today

From precision livestock systems and smart cropping to innovative horticulture and viticulture, we're partnering with farmers and industry to drive the digital revolution in agriculture, turning real-world challenges into practical solutions

Through advanced BioSolutions, renewable energy integration, and regenerative practices, we're creating a holistic testing ground for solutions that enhance productivity, boost farm profits, and reduce operating costs.

Together, we're transforming farming through the development, testing and validating of digital and technology innovations that empower producers, enhance sustainability, and secure our food future while strengthening the entire agricultural value chain.

Thank you

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