



TRANSFORMING FARMING OPERATIONS BY ENABLING INNOVATIVE DIGITAL OBSERVATION, TRACKING AND REPORTING TECHNOLOGY

The Challenge

69 percent of Australia's land area has no access to mobile phone coverage, meaning thousands of farming families are left without reliable connectivity to conduct business. The Western Australian government recognised the impact this lack of connection was having in regional WA, preventing farming businesses from access to the latest innovations in agricultural technology and diminishing their ability to compete in international export markets.

The Opportunity

Pivotel recognised its ecoSphere® technology could support the adoption of digital farm technologies by providing digital connectivity to farms in regional Western Australia. Pivotel was awarded two grants by the WA Department of Primary Industries and Regional Development (DPIRD) to build two ecoSphere® high speed 4G cellular networks in the regions of Mt Barker and Wickepin.

As part of the comprehensive tender process, Pivotel spoke with farming grower groups in the WA Grainbelt region aligning with those at the forefront of agricultural innovation. One of those groups was Stirlings to Coast Farmers (SCF), a farmer-led agricultural research development organisation leading in this field. Their Smart Farm initiative in the Mt Barker region required reliable mobile network communications to develop and deliver the latest operational capabilities. The partnership is creating a unique opportunity for farming communities in this region who want to implement the very latest ag-tech farming practices.

“ The blueprint to provide farms with connectivity to operate new technology has been in design for some time. We're enthusiastic about the opportunity to use Pivotel technology to finally make this vision a reality for farms in our region. ”

- Dr Christine Kershaw
Stirlings to Coast Farmers

Business Problem

As part of the wider digital and technology-driven transformation happening in agriculture, SCF is encouraging their members to improve on-site efficiencies across their farms through the adoption of digital tools and systems. SCF recognised that remote farmers who lack effective connectivity in Australia are at a disadvantage when trying to keep up with international competitors and export markets that have connectivity and are rapidly adopting digital technology.

To ensure their farmers remain competitive in the market, SCF needed a mobile data network connection solution for their farms, some of which are located in the most remote areas of Australia. The organisation also wanted to move away from a dependence on major telcos who provide only partial coverage to farmers with no foreseeable improvement to be made to the speed or quality of their service to Australian farmers.

SCF CEO, Dr Christine Kershaw said there are numerous aspects of farming operations which could be enhanced by introducing digital connectivity.

“What we are seeing is fantastic innovation in observation, tracking and reporting technology across the agricultural space, designed to improve the livelihood of farmers and their ability to make better, real time decisions that can increase their productivity and profit,” Dr Kershaw said.

SCF's Smart Farm initiative takes a holistic approach to improving entire farming operations from improving productivity and risk management and occupational health and safety (OH&S) through to reducing risk and financial exposure through the use of digital technology. Using the ecoSphere® by Pivotal network, SCF will be able to implement data collection tools (IoT) across the farms, which will help transform the current non-connected farming model into a more sophisticated and digitally connected operation.

Business Solution

Pivotal's ecoSphere® network combined with SCF's enthusiastic drive to utilise the latest technological capabilities for agriculture is a symbiotic relationship. Pivotal's 4G network will connect farms using a series of cellular base stations that are installed on towers across these properties. Multiple digital devices will be connected through the ecoSphere® network permitting fast communications between devices, local servers and global Internet services. In addition, the ecoSphere® network supports connectivity to 'Internet of Things' (IoT) devices used on farms to gather sensor reports on water levels, soil moisture, weather conditions and other important environmental and agricultural measures.

“Pivotal's technology is making connectivity possible for our farmers, which means farmers can make better use of data on farms. This means we will see improvements in optimised seeding and harvesting processes and better individual animal management for improved productivity and animal welfare outcomes by enabling digital tracking tags to monitor weight gain and the health of livestock,” Dr Kershaw said.

“The technology will not only enable digital observation and tracking capabilities but will also enable a 'connected farm' where farmers can implement digital tools that will help them to make more informed projections; vastly improving their decision-making ability and reducing risk.”

The Outcome

Pivotal and SCF are predicting there will be 50 farms connected as part of this first stage of the SCF Digital Farms initiative by the end of 2019. Two mixed farming operations focussed on cropping and livestock will become 'Smart Farm' pilot sites for the initiative where digital tools and systems will be demonstrated and tested.

“With Pivotal's ecoSphere® solution, we will be able to work with our members to digitise processes and transform their operations to ensure the long-term sustainability of their farming businesses into the future.”

The Hardware

ecoSphere® by Pivotal

ecoSphere® by Pivotal is a customised mobile cellular 4G network for remote regions or properties that allows users to optimise operational efficiency and maximise safety.

ecoSphere® provides secure telephony, data, video, tracking and monitoring connections for on-site and remote assets and personnel.



About Stirlings to Coast Farmers

Stirlings to Coast Farmers was formed in 2009 to deliver credible, relevant research and information to farmers in the

lower Great Southern coastal region of Western Australia. Find out more at scfarmers.org.au