

# AgTech Demonstration at the Minnipa Agricultural Centre

## Guide to EOI process

The Minnipa Agricultural Centre (MAC) provides a two-way digital marketplace for Agricultural Technology (AgTech) solutions that allows AgTech firms to match their products closely to on-farm challenges, and provides farmers with visibility of technology solutions, including key information on product cost and performance. The demonstration of AgTech at MAC aims to:

- Identify key farm decisions and processes that can be supported by AgTech and highlight the use and value of AgTech solutions in informing these management decisions.
- Enable primary producers to interact with a wide range of AgTech solutions before identifying and adopting products and services that will improve their productivity and profitability.
- Enable technology developers and suppliers to engage constructively with primary producers to ensure products are end-user centric and capable of meeting their needs.
- Document and communicate the application and performance of AgTech products as applied to upper Eyre Peninsula production systems.

## The Minnipa Agricultural Centre

Minnipa Agricultural Centre (MAC) is comprised of a farming property and a SARDI research facility. It serves the low rainfall (<350 mm annual) cereal and sheep growing areas of southern Australia and is located on the upper Eyre Peninsula – an area that represents about 12% of the total value of cereal production in the state, or about \$100 million per annum.

The main roles of the farm are to demonstrate innovative, best practice farm management for low rainfall environments and contribute to the operation of R&D and extension programs.

The MAC farm occupies 1,200 hectares (ha) of medium sandy loam with occasional patches of limestone and lighter rises. Granite outcrops are a prominent geographical feature. The MAC farm currently undertakes mixed farming, planting a variety of crops and producing on average:

- Wheat – approximately 400 ha/yr, planted averaging 2.2 t/ha



- Barley – approximately 200 ha/yr, planted averaging 2.4 t/ha
- Canola – approximately 50 ha/yr, planted averaging 0.6 t/ha
- Lentils - approximately 30 ha/yr, planted averaging 0.6 t/ha
- Peas - approximately 50 ha/yr, planted averaging 1.0 t/ha
- Sheep – approximate 400 head self-replacing merino flock with individual animal data recorded for over 10 years. Shearing is completed every six months with a wool cut of approx. 7 kg/yr/animal at an average of 19.5 microns.

## Selection Criteria

MAC is aiming to demonstrate AgTech products to growers and facilitate a better interaction between AgTech providers and the industry. To achieve this the technology will be required to meet selection criteria. These are provided below:

1. The product or technology addresses one of the operational decisions or activities detailed in “AgTech Required” and is viewed to have potential value in farm management decision making
2. The product/technology is available to farmers within South Australia
3. The product embraces ‘open source’ principles such that it can communicate with other reporting/viewing products
4. The company can install the product on site at MAC at their own cost
5. The company can provide adequate technical support to MAC at their own cost
6. The company agrees to open access for all data collected by the product or technology
7. The company agrees to all performance data on the product or technology being openly available
8. The company agrees PIRSA can use the product operational and performance data for analysis and images in presentations and communications
9. Public liability insurance on an occurrence basis for at least ten million dollars (\$10,000,000) for each occurrence.

## AgTech Required

AgTech is the broad term for a wide range of technologies that can help agribusiness. In the broader sense, AgTech includes digital agriculture software and hardware, mixed/integrated farming systems, plant crop and livestock sciences, and post farm gate agricultural value chain technologies.

The focus of the MAC demonstration site is to enhance the adoption of AgTech that supports management decisions or activities/operations relevant to production systems within the Eyre Peninsula.

The following are examples of farm management decisions or activities requiring AgTech solutions:

#### *Whole of Farm Connectivity*

- Wi-Fi/IoT coverage over the farm
- Dedicated network access from a high percentage of the total area
- Ability to transfer a high level of data and images to a central hub

#### *General Farm Activities*

- Assistance with decision making
- Increasing resource use efficiency
- Environmental monitoring, including weather monitoring and forecasting
- Diesel fuel tank monitoring
- Precision agriculture
- Electronic marketing
- Mapping and identifying sources of variability across a property
- Reporting and record keeping
- Compliance with WH&S requirements
- Labour task scheduling and monitoring
- Remote hazard recording
- Quality assurance management
- Cost of production measurement
- Stock movement/monitoring

#### *Livestock Management*

- Maternal/paternal-offspring matching

- Individual livestock management, including monitoring movement, behaviour and health
- Feed assessment
- Feed intake monitoring – individual/mob
- Parasite monitoring
- Automatic drafting between paddocks
- Climate shelters
- Automatic feedlot systems
- Water monitoring

#### *Crop Management*

- Crop heat or moisture stress
- Crop growth and canopy cover
- Soil understanding, monitoring and management
- Crop nutrient management
- Variable rate mapping
- Quality and/or yield improvement
- Yield estimation and prediction
- Pest identification/eradication (weeds and insects)

#### *Farm Vehicle Management*

- GPS tracking
- Vehicle automation
- Vehicle safety monitoring (e.g. roll over alert)

## Timing

Expressions of interest will be accepted on an ongoing basis. Successful demonstrators will be informed as assessments are completed.

## How to apply

Expressions of Interest must be submitted via the [online form](#).

The following information will be required:

- **Company details**
- **AgTech Proposed for Demonstration**

Include, for each AgTech product or technology being proposed for demonstration:

- Product/technology name
- Relevant farm management decision/activity
- Product/technology description
- Distributor to South Australia if not the proponent

- **Compliance with performance-based selection criteria**

Include responses to the following selection criteria:

- Availability in South Australia
- Open source system
- Installation – who will install and how (confirming costs will be borne by the proponents)
- Technical support

Where multiple products or technologies are proposed, and the response differs between products or technologies, please provide specific details for each product/technology.

- **Information Management**

State whether you agree with the below selection criteria, and list any additional requested conditions:

- All data collected by the product or technology can be openly accessed
- All performance data on the product or technology will be openly available
- PIRSA can use the product operational and performance data for analysis, and images in presentations and communications
- PIRSA can provide my contact details to people/businesses interested in this product or service

- **Insurance**

The proponents are required to have public liability insurance on an occurrence basis for at least ten million dollars (\$10,000,000) for each occurrence. Please provide a certificate of currency.