AgTech Demonstration at the Nuriootpa Research Centre

Guide to EOI process

The Nuriootpa Research Centre (NRC) 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 NRC 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 viticulture production systems.

The Nuriootpa Research Centre

Nuriootpa Research Centre was established in 1937 to support viticulture research. This includes vine germplasm collections and specialised field facilities for research on drought and heat stress. It serves the medium rainfall wine grape growing areas of southern Australia and is in the Barossa Valley – an area covered by 11,156 hectares of vines, representing 15% of South Australian and 8% of national vineyards[1].

Nuriootpa Research Centre is 30 hectares in size and planted to approximately 78,000 vines. Varieties include Shiraz, Chardonnay, Semillon, Riesling, Sangiovese, Cabernet sauvignon, Gamay, Pinot Noir, White Grenache.

[1] *Source: National Vineyard Scan 2019 and ABS*

Selection Criteria

Nuriootpa Research Centre 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 NRC at their own cost
5. The company can provide adequate technical support to NRC 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 NRC demonstration site is to enhance the adoption of AgTech that supports management decisions or activities/operations relevant to surrounding viticulture production systems, including the Barossa, Clare and Eden Valleys.

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

Irrigation

- Soil moisture monitoring and management
- Automation of irrigation control to take advantage of forecasting and prediction data
- Improving water use efficiency, e.g. linking sensors to irrigation scheduling
- Accurate water use predications
- Water pump pressure (and flow rate) monitoring
- Automated notification about irrigation leaks
- Remote start and alerts management

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

Expressions of Interest must be submitted via the online form.

The following information will be required:

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.