Victoria's On-Farm Internet of Things Trial

What kind of technology will be available to farmers participating in the trial?

This is a summary of the types of technology available to support the trial. Agriculture Victoria is currently finalising the complete list of technology to support the trial. All Apps & Devices in this list are available to all farmers. The coloured icons suggest where the Apps & Devices may be most applicable.

Informed agronomy

Information systems to support decision-making
Compile data into key reports, analysis, alerting and / or decision support. May bring in additional data through free or allied services.

Weather monitoring
Monitor weather conditions including air temperature, relative humidity, barometric pressure, wind speed, wind direction, rainfall and solar radiation or photosynthetically active radiation.

Soil moisture monitoring
Monitor soil moisture and other soil factors for crop / pasture management. May include soil temperature and macronutrient sensing at a range of depths.

Microclimate monitoring
Sensors for specific applications such as leaf wetness, frost, rain gauge, wind speed, wind direction and light sensing.

Plant growth monitoring
Measure plant and fruit growth status. Includes stem and fruit diameter using dendrometers. May allow for comparative assessment of block and variety progression and inform harvest timing.

Plant stress tracking
Track plant water use and moisture stress for informed management of productivity and fruit quality.

Production environment data

Pest monitoring
Enable rapid identification of pest risk to production system.
Trapping, imaging and alerting of pests for analysis or control.

Plant disease risk monitoring
Measure crop environment temperature, humidity and leaf wetness
to monitor fungal disease risk.

Farm management

Asset tracking
Track location, movement and status of equipment.

Site security monitoring
Monitor building doors or gates, detect motion and / or trigger
camera recording of security events.

Battery condition monitoring
Track remote equipment battery status, power consumption
and battery health.

Staff safety monitoring
Monitor welfare of staff (fall detection, location, panic button),
including staff working remotely or in one-up situations.

Fuel tank level monitoring
Monitor diesel fuel supply volume and actively manage resupply
based on current and historical fuel requirement.

Grain storage monitoring
Monitor and manage grain storage conditions such as temperature
and humidity to protect grain quality and germination.

Silo level monitoring
Monitor grain, feed or fertiliser silo levels for both filling and supply
level tracking. Prevent the need and risk to climb silos, save time in
filling and reduce overflow spills.

Animal monitoring
Track location, movement and health status of stock. Factors
including location, body temperature, movement types and
reproductive status can be monitored.

Fence monitoring
Monitor fencing to ensure stock are contained to paddock
boundaries.

Milk temperature and process equipment monitoring
Detect milk storage and cleaning temperature factors outside
of set points to reduce risk of spoiled milk batches.

On-farm cold store monitoring
Track humidity and temperature within on-farm cold stores.

Managing Water

Water flow measuring
Meters to measure water flow through reticulation systems. Pipeline sensing from 20mm to 100mm, plus channel flow rate metering.

Tank level monitoring
Remotely monitor water tank levels for stock, irrigation, spraying or domestic supply.

Water quality monitoring
Monitor water salinity, electrical conductivity and/or pH.

Pump monitoring and managing
Remotely manage pumping through scheduling or level or pressure switching.

Dam level monitoring
Remotely monitor dam levels for stock, irrigation, spraying or domestic supply.

Trough level monitoring
Remotely monitor watering points and inform reticulation supply and repair scheduling.

Water delivery monitoring
Remotely detect wetting front in soil – especially via flood irrigation.

Water pressure monitoring
Pressure sensor to remotely confirm pump status in water transfer/delivery.

Valve controlling
Remotely control reticulation valves for efficient automation of orchard irrigation/fertigation.

Accessibility
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