**Comparison Report**

1. **Remote monitoring of irrigation systems** [**https://www.controleng.com/articles/remote-monitoring-of-irrigation-systems/**](https://www.controleng.com/articles/remote-monitoring-of-irrigation-systems/)

Wireless remote monitoring and control systems enable farmers to gain better control and visibility over the operations of their irrigation systems and to make better decisions regarding water, chemical, and electrical usage.

* 1. Features

A remote monitoring and control system for a drip irrigation system. Sensors installed on the various components of the drip irrigation system (water source, pumps, and pipelines) provide data to radio nodes that transmit data to a central gateway. Either battery or solar-powered, the nodes power the sensors. Serving as the central processing hub, the gateway stores the most recent readings of the nodes in a network in Modbus format then manages outbound communications by formatting data for delivery to a control center. An Ethernet interface module can tie information from the gateway into a web-based tool such as a laptop or cell phone.

* + 1. Wireless sensor control system

It provides real-time visibility into the operating status of motors, pumps, valves, flow rate, and other parameters of the irrigation system.

* + 1. Data collection

Collected data is downloadable into analytics software for calculating and analyzing.

* + - 1. Water and electrical usage

It represents significant expenses related to irrigation system operation. Users can trend information on an hourly or daily basis about volumes, levels, rates of applications.

* + 1. Wireless remote monitoring and control system

Empowers farmers to monitor remotely and control different aspects of the irrigation system from the convenience of a tablet, computer, or even a smartphone.

* + - 1. Inspection of motor and pumps

Instead of traveling to multiple locations to manually inspect the motor and pumps, the wireless telemetry system reduces labor by providing an automatic and real-time status of water pressure, pump usage, pump water flow, and other critical operating parameters by collecting data from instrumentation located on different components of the irrigation system.

* + - 1. Pipeline leaks

The wireless monitoring and control system is configurable to provide alerts on abnormal conditions so technicians can diagnose problems, such as motor failures and pipeline leaks, quickly. They can return irrigation systems to optimal operation, as well as avoid adverse scenarios, such as flooding.

* + 1. Covering large acre farms

The nodes can hop from one crop field to another and back to a gateway located at the point of monitoring, such as the headquarters of the irrigation district. Robust gateways can accommodate hundreds of transceiver inputs from multiple field sensors, enabling the network to cover a geographic range of a mega farm of 10,000 acres that roughly equals 15 square miles. An Ethernet interface module connects the gateway to a local area network (LAN), a Wi-Fi network, or a cellular modem, bringing the information to the field operators. Bottom line, the telemetry system can broadcast information over long distances.

* + - 1. Wireless telemetry system

A wireless sensor control system can operate over many square miles of different terrain without using cables that limit the use of wired systems. Wireless telemetry systems working in a mesh network permit nodes to self-configure into a web-like structure over large areas regardless of hills, buildings, and other structures.

1. **Valley Smart Farm Solutions** [**https://www.valleyirrigation.com/smartfarm**](https://www.valleyirrigation.com/smartfarm)

* Benefits
  + Data Collection
  + Efficient Production
  + Improved Production Quality
  + Water Conservation
  + Remote Monitoring
  + Equipment Monitoring
  + Reduce Environmental Footprint
  + Farm Solutions
    - Valley 365
    - Valley BaseStation3
    - Valley Run Time
    - AgSense
    - Pump Command
    - ICON Link

1. **Netafim Digital farming solution** [**https://www.netafim.com/en/digital-farming/netbeat/Monitor/**](https://www.netafim.com/en/digital-farming/netbeat/Monitor/)
   * 10KM communication.
   * Monitor *i.e. Weather sensors, Irrigation system sensors, Crop sensors, Soil moisture sensors etc. NetMCU has an ability over the air updates and maintenance. NetRTU monitors 3 analog sensors & 2 digital inputs.*
   * Control *i.e. NetMCU controls upto 250 valves, NetRTU control upto 16 latch valves. AC and DC systems.*
   * Analyze – Dynamic Crop Model *i.e. decision support system that will help you optimize your irrigation and fertigation in realtime.*
   * The NetBeat Software *i.e. optimize yields, lower costs and boost business with farmer-centric cloud. This software gives farmers unprecedented access to a super-computing brain with multiple benefits, letting them manage their fields directly from their smartphones.*
   * Fertigation *i.e. lower fertilizers’ costs and get better and higher yields with advanced fertigation solutions.*
2. **Wild Eye** [**https://www.mywildeye.com/**](https://www.mywildeye.com/)

Make better irrigation and farm management decisions with live sensor information at your fingertips. Wildeye sensors are a reliable and affordable way to remotely monitor what’s really happening in the field.

* Monitoring device (Dashboard)
  + *Irrigation*
  + *Pump control*
  + *Valve control*
  + *Remote scheduling*
  + *Line pressure monitoring*
  + *Water levels*
  + *Reservoir / Ditch level*
  + *Weir flow rate*
  + *Standpipe / Sump Level*
  + *Stock water tanks*
  + *Potable water tanks*
  + *Chemical tank levels*
  + *Weather & Climate*
  + *Weather Stations*
  + *Frost Alerts, Chill portions*
  + *ET0, Rain, Wind*
  + *Hay Dew*
  + *Heat alerts - Worker safety*
  + *Soil moisture*
* *Vegetables & Short term crops*
* *Trees & Vines*
* *Broadacre, Dryland, Pasture*
* *Turf, Sportsfields, Parks & Gardens*
  + *Flow Monitoring*
* *Flow rate and volume reporting*
* *Create virtual block level meters with pressure sensors*
  + *Environmental*
  + *Weather stations*
  + *Geotechnical sensors*
  + *Bore level monitoring*
  + *Flood monitoring*
  + *Mining operations*
  + *Lift stations*
  + *Solar panel monitoring*
* Maps, Export, Reports.
* Android, IOS application.