

## **Wirentic – Agricultural Automation Solutions**

Wirentic expands its expertise in smart energy and industrial automation into agriculture, providing innovative solutions that make farming more efficient, sustainable, and data-driven. These systems combine GPS, IoT, and PLC technologies to improve productivity, reduce waste, and promote precision agriculture.

### **Automatic Fertilizer and Pesticide Sprayer**

A GPS-guided autonomous sprayer that ensures accurate fertilizer and pesticide application. The flow rate is controlled by Variable Frequency Drives (VFDs) and monitored by sensors, allowing consistent, precise, and efficient coverage of crops.

### **Centralized Smart Metering for Agro-Industrial Zones**

Similar to Wirentic's Smart Energy Metering at DS Office Peshawar, this system is designed for farm clusters or cold storage units. It offers centralized monitoring, energy management, and cloud-based data logging for cost and efficiency analysis.

### **Retrofit of Old Harvesting or Milling Machines**

Upgrading old analog harvesting and milling machines with digital CNC controllers. The retrofit adds servo-driven automation and IoT-enabled monitoring, improving accuracy, productivity, and reliability.

### **Automatic Liquid Fertilizer Mixing and Dosing Unit**

A PLC or microcontroller-based system for precise nutrient mixing. Flow sensors, dosing pumps, and pH/EC sensors maintain accurate ratios of liquid fertilizers, making it ideal for hydroponic and fertigation systems.

### **Wireless Field Nutrient Control Unit**

Solar-powered IoT devices placed across fields measure soil EC, pH, and nitrogen levels. Data is sent to a central dashboard, giving farmers real-time insights and fertilizer recommendations.

### **Bio-Fertilizer Fermentation Process Control**

A PID or PLC-based automation system that controls temperature, aeration, and pH in fermentation tanks. Cloud logging ensures complete traceability, process optimization, and quality control in bio-fertilizer production.