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Agriculture / Horticulture / Greenhouses

# Precision Environmental Monitoring for Better Yield & Plant Health

Our solutions ensure accurate monitoring of temperature, humidity, soil conditions, and micro-climate parameters essential for healthy plant growth. Real-time insights help optimize greenhouse environments, improve crop quality, reduce stress, and maintain consistent growing conditions across all seasons.

Use Cases

## Smart Environmental Monitoring for Healthier Crops & Higher Yield

Our solutions monitor **temperature, humidity, soil moisture, irrigation cycles,** and **greenhouse micro-climates** with precision. They help growers maintain **optimal conditions**, reduce **plant stress**, and prevent **disease** through **real-time alerts. Data-driven insights** improve **productivity, consistency, and overall crop quality.**

### Greenhouse Climate Control

- Continuous monitoring of temperature, humidity, and $CO_2$ levels
- Automated alerts for micro-climate deviations
- Supports maintaining optimal growth conditions for each crop
- Prevents heat stress, condensation, and fungal risks

### Smart Seed Production

- Real-time climate & moisture monitoring with precision sensors.
- Central control using a powerful wireless IoT gateway.
- Live dashboards, batch tracking & secure data history.
- Instant alerts on mobile for zero seed loss and higher germination.

### Irrigation & Fertigation Efficiency

- Real-time monitoring of irrigation cycles and water distribution
- Prevents over-watering and under-irrigation
- Supports precise fertigation timing
- Improves water-use efficiency and resource savings

### Cold Storage for Harvested Produce

- Ensures temperature stability in post-harvest storage units
- Protects produce from spoilage and moisture loss
- Compliance with food safety and storage standards
- Real-time alerts prevent quality degradation

### Open-Field Environmental Monitoring

- Tracks rainfall, soil moisture, wind, and ambient temperature
- Early alerts for frost, heatwaves, or drought stress
- Helps optimize field irrigation scheduling
- Supports yield forecasting with long-term data trends

## Purpose

### Why Monitoring Is Mandatory?

**Continuous Monitoring for Climate Stability, Plant Health, and Yield Assurance**

- **Real-time environmental monitoring** is essential to **protect crops**, prevent stress, and maintain **ideal growing conditions**.
- Accurate tracking of **temperature, humidity, soil moisture, and micro-climates** ensures **healthier plants, higher yields,** reduced losses, and **data-driven resource efficiency** across agriculture, horticulture, and greenhouses.

**Ideal Growing Conditions**

**Disease Prevention**

**Irrigation Optimization**

**Yield Quality**

**Compliance & Traceability**

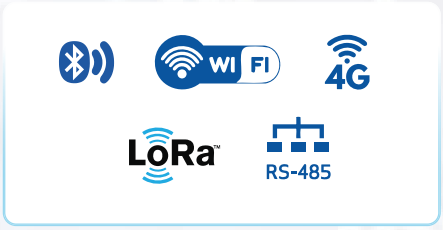
## Data Loggers Deployment

**Deploying Data Loggers for Maximum Efficiency**

- **Continuous Monitoring & Real-Time Alerts** — Our data loggers provide 24/7 tracking of critical parameters like temperature, humidity, and equipment status, delivering instant alerts to prevent deviations, protect assets, and maintain product integrity.
- **Compliance, Traceability & Operational Optimization** — Deployed across production lines, cold storage, and controlled environments, our data loggers deliver audit-ready records to ensure regulatory compliance and improve process efficiency.

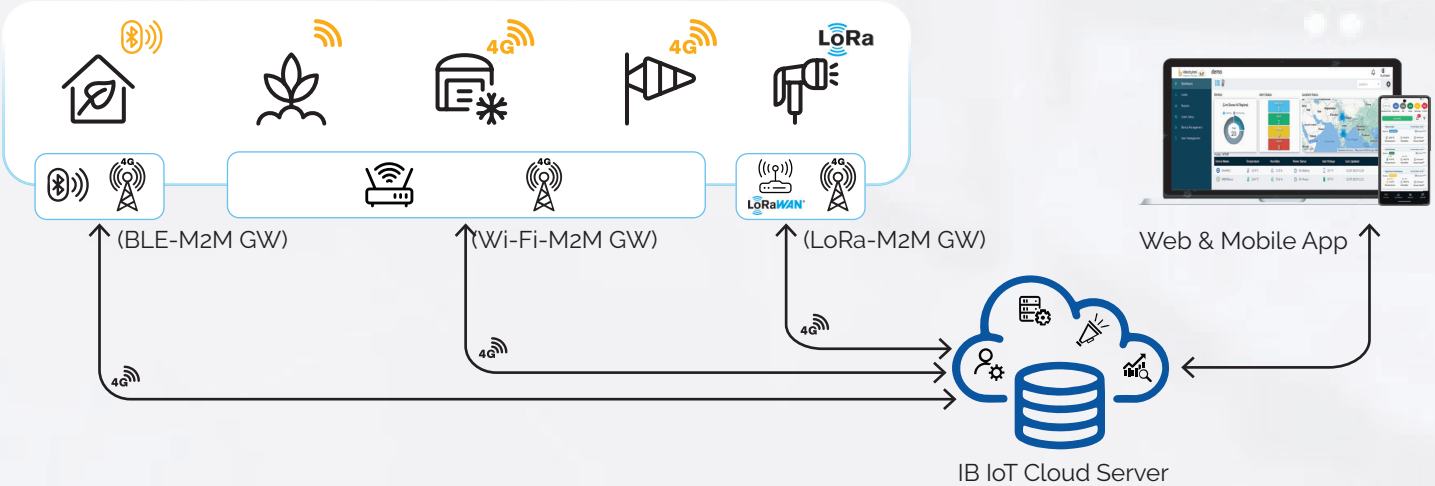
Sensor Probes

Data Loggers




Gateways

## Solution Architecture



Support Models

## Comprehensive Device Compatibility Across All Monitoring Needs

Our **wide range of data loggers** delivers **real-time monitoring** with **alerts and audit-ready records, ensuring safety, efficiency, and compliance** across **manufacturing, cold storage, pharmaceuticals, and industrial environments.**

**https://www.ideabytesiot.com/products**

| Model No | Gateway | Temperature Range | Humitidy Range |
|---|---|---|---|
| IBI-WTH120/ IBI-MTH120 | Wi-Fi/4G | -40˚C to +120˚C | 2 to 99% RH |
| IBI-WTH50/ IBI-MTH50 | Wi-Fi/4G | 0˚C to +50˚C | 0 to 100% RH |
| IBI-WTH70/ IBI-MTH70 | Wi-Fi/4G | -30˚C to +70˚C | 0% to 95% RH |
| IBI-MTH120-CN | 4G/GPS | Upto +120˚C | 0% to 100% RH |
| IBI-MT120-CN | 4G/GPS | Upto +120˚C | - |
| IBI-WT350/ IBI-MT350 | Wi-Fi/4G | -200˚C to +350˚C | - |
| IBI-WT120/ IBI-MT120 | Wi-Fi/4G | -40˚C to +120˚C | - |
| IBI-WTD120/ IBI-MTD120 | Wi-Fi/4G | -40˚C to +120˚C | - |

### Hardware Features*

- 1.3" 128×64 OLED Monochrome Display
- 4000 mAh Li-Ion Battery (Up to 20 hrs backup)
- Plug & Play, Wall-Mountable Design
- Configurable Data Polling
- Configurable Internal Data Storage
- 5V/1A DC Power Input
- IP64-Rated Enclosure

### Software Features*

- Dashboard, Map & List Views
- Analytics, Device & User Management
- Alerts & Notifications
- Audit Trail, Alarm Logs & Trend Graphs
- Configurable Data Polling (Default: 15 mins)
- Optional SMS Alerts
- Web & Mobile Apps (iOS & Android)

*Features and specifications vary according to selected model

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