

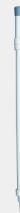
# Greenhouse Climate Monitoring

wanwave's greenhouse monitoring solution allows operators to maintain optimal growing conditions, maximize crop yield and quality, and ensure the success of their operations. By deploying the solution operators can prevent temperature fluctuations, mitigate heat stress in plants, and optimize energy usage for heating and cooling systems.

Key aspects of using wanwave's greenhouse climate monitoring include:

- 1. Real-Time Monitoring:** wanwave's solution continuously monitors temperature levels at various locations within the greenhouse, providing operators with real-time data on ambient temperatures, microclimate variations, and temperature gradients. This information enables operators to track temperature fluctuations, identify potential heat stress in plants, and take proactive measures to maintain optimal growing conditions.
- 2. Crop Protection:** wanwave's solution supports effective crop protection strategies by enabling operators to monitor temperature conditions and respond to weather fluctuations in real-time. By integrating temperature data with weather forecasts and environmental sensors, operators can anticipate temperature changes, protect sensitive crops from frost or heat stress, and minimize the risk of crop losses due to adverse weather conditions.
- 3. Energy Efficiency:** Real-time monitoring of temperature levels enables greenhouse operators to improve energy efficiency by optimizing heating and cooling systems. By adjusting heating and ventilation settings based on temperature data, operators can minimize energy consumption, reduce operating costs, and lower greenhouse gas emissions, while maintaining optimal growing conditions for plants.

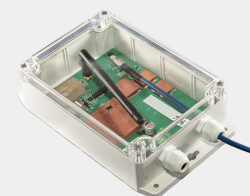
## Hardware Components Used in this Solution



SOIL TEMPERATURE SENSOR



TEMPERATURE AND HUMIDITY SENSOR



WNG-20 NETWORK GATEWAY

### About the wanwave Network

wanwave offers the first true end-to-end Massive IoT ecosystem comprising a highly efficient & secure communication protocol, and a wide range of end-devices to serve any application or use-case:

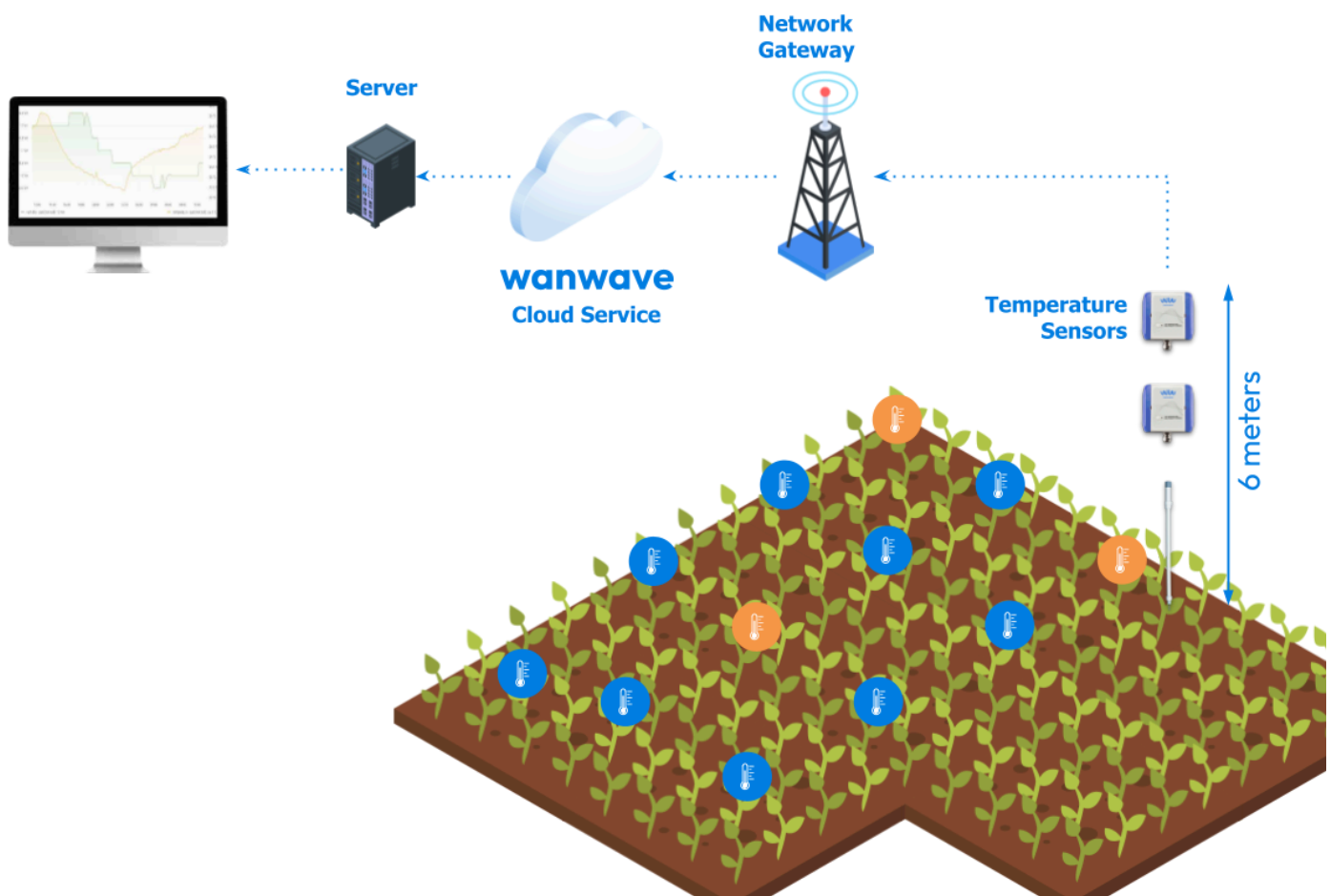
Learn more at <https://wanwave.com>.

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4. **Seamless Integration:** wanwave's solution offers seamless and quick integration with greenhouse automation systems, climate control devices, and crop management software. Integration allows operators to automate temperature control processes, remotely monitor temperature levels, and receive alerts or notifications for critical conditions.

## Mode of Operation

Using our range of temperature sensors enables you to create a three-dimensional digital temperature map of the greenhouse. The transmitted information is received by the network gateways which automate the reception and transmission of messages between end devices and the wanwave server.



Learn more at [wanwave.com](https://wanwave.com)

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