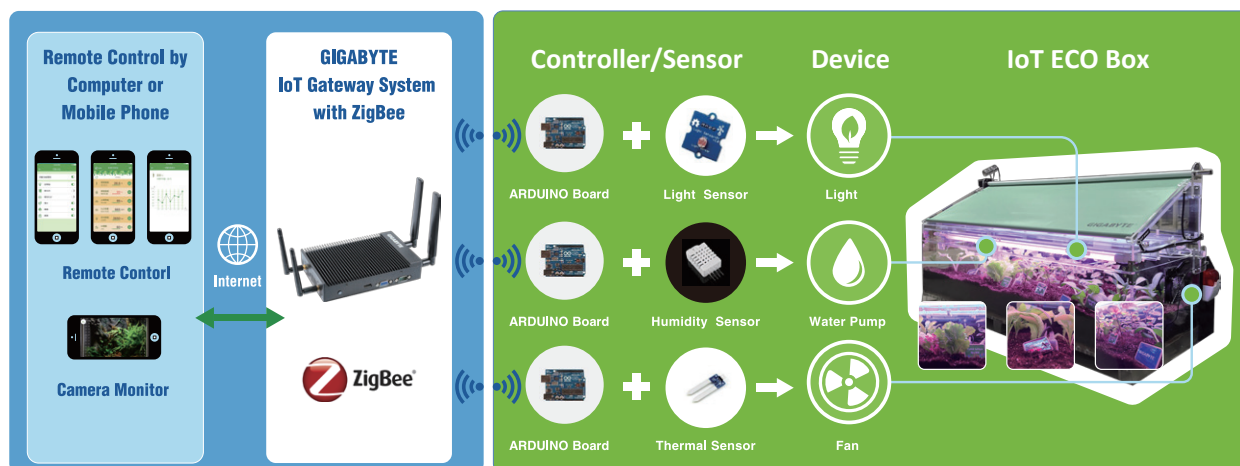
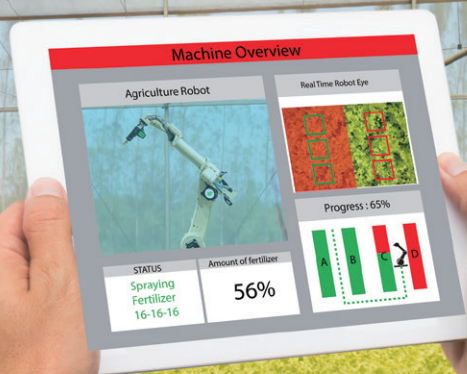




Smart Agriculture

GIGABYTE has taken the first step to develop an smart agricultural system, to help farmers reduce workload and improve manpower shortages, using the front-end environmental sensors, monitoring systems, and equipment controllers to maintain the field and monitor the crops conditions remotely.



Introduction

In order to bring agriculture efficiency with technology, GIGABYTE has developed an smart agricultural system to help farmers have better control over the process of growing crops.

With the environmental sensors, monitor systems, and equipment controllers receiving data, such as sunshine, temperature and humidity at the front-end environment, GIGABYTE "IG-3815" Smart IOT Gateway System also uses EDGE Computing and wireless technologies, such as WIFI/ZigBee/LoRA, to collect those data or transmit control signals to the front-end equipment to maintain the growth environment.

Furthermore, data collected to GIGABYTE Cloud Storage Device (Virtual Store Appliance: H261-H61) can be stored and done big data analysis. Users can go to the database to retrieve information on the growth environment of each batch of crops, and do comparison & analysis on the harvests, in order to achieve optimal growth environment of the plant.

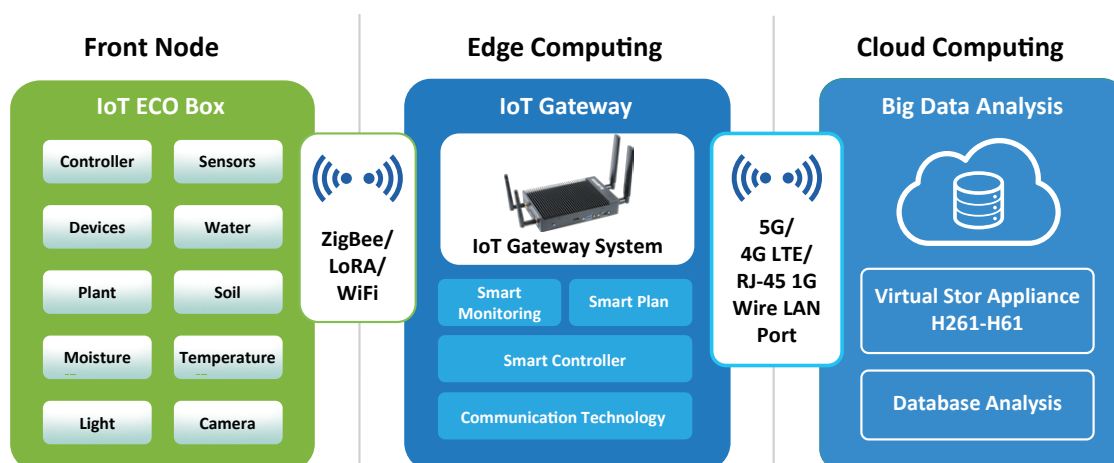
Challenges in Agriculture Nowadays

Global warming impacts climate circles causing farmers great losses in droughts or floods, or even more, not knowing what crops are suitable to plant in such unpredictable weather condition. Limited natural resources such as fresh water and farmland also blocks the capacity of agricultural plants.

Less human resources are input in farming industry due to daily hard works of patrolling in the field, fertilizing, water pumping and spraying pesticides without actual day-off.

But the growth of world population is still increasing, food supply becomes a critical issue to human beings.

Therefore, traditional way of cultivation is not enough to manage the farm fields or improve the quantity of crops. It's time for IoT technology to involve in the agricultural revolution.



Advantages of Smart Agriculture

1. Increase production capacity:

Instantly control the environmental factors to achieve the optimal growth environment of the plants.

2. Reduce the manpower burden:

Remote monitoring via mobile APP, if the situation can notify the relevant personnel in time, or use the remote control for manual processing.

3. Collecting and analyzing data:

Through the cloud database server, it can collect environmental data and perform big data analysis to provide improved crop growth conditions.

Features of the IOT Gateway

GIGABYTE IOT Gateway agricultural system, ZigBee wireless technology, MCU Boards and SENSORS which can control the environment, in order to achieve optimal growth environment of the plant.

Greenhouse environmental data collection and storing and analysis can improve the plant growth environment by using front-end sensors and specific equipment to improve the environment. IOT GATEWAY uses EDGE Computing and built-in ZigBee to collect data and transmit control signals to the front-end equipment. After (fan, water, light, shade cloth control), the data collected to a back-end database to transfer to big data analysis.

In order to reduce labor costs, increase work efficiency. In the past, the farmer had to stay at the side of the crop at any time, patrol the water, fertilize, and watch the day. Now farmers can use technology through the Internet of Things IOT Gateway eco-box, reducing agricultural losses. Increase production.

GIGABYTE Smart Agriculture System - The IoT Gateway System's IoT ECO Box provides an agricultural technology application solution that enables farmers to increase the yield and quality of their crops while maximizing people's healthy lives!



IoT Gateway System

Product specifications are subject to change without prior notice.