FirstCon Agricultural Intelligent Greenhouses System

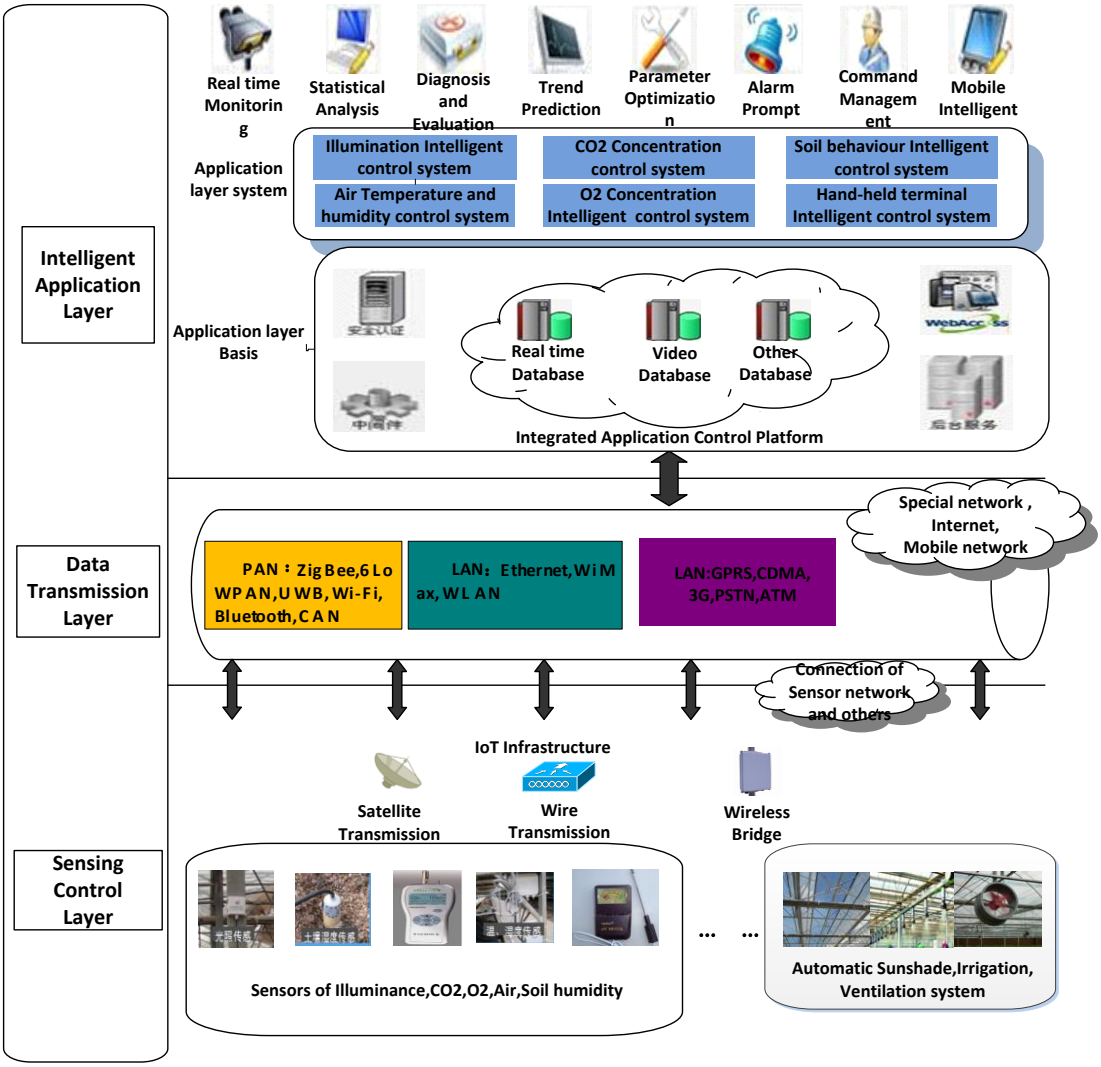
The main function of intelligent greenhouses is to change the environment for the growth of greenhouse plants, to avoid the adverse effects of the changing seasons and inclement weather outside on crop growth and create good conditions for plant growth.

1. System Introduction

FirstCon Agricultural Intelligent Greenhouses System (: FC_AGS) is an intelligent control system which integrates sensor systems, automatic control systems, communication technology systems, computer applications and expert system. The system uses IOT technology, can get temperature and humidity of the air, carbon dioxide concentration, light intensity and the temperature and humidity of soil, pH value and NPK concentration and video images in real-time and remote way, through system analysis by experts to achieve intelligent control wet screen-air blower, spray irrigation, internal and external shading, roof windows and side windows, heating and light fill, and other equipments to ensure the best adapted environment for crop growth and create conditions for high-yield, high-quality, efficient, ecological and safe crops. Meanwhile, the system can also push real-time monitoring information, early warning information and agricultural knowledge to farmers via mobile phone, PDA, computer and other information terminals, to achieve intensive, network-based, intelligent management of greenhouse, gives full play of IOT technology in facilities agricultural production. The system is suitable for all types of greenhouses, solar greenhouse, multi-span greenhouse and intelligent greenhouses.

2. System Architecture

Intelligent greenhouse control system uses three-tier networking of IOT, it's divided into perceived control layer, data transport layer and intelligent application layer, combined with video surveillance system for remote monitoring of crop growth, real-time detection of greenhouse environmental parameters and environment adjustment control mechanism.



3. System Functions

- Simple operation, easy maintenance
- Stable system and reliable operation

- Whole system is easy to expand

- Economic and energy-saving operation, low maintenance costs and high cost effective

- Able to realize accurate measurements of greenhouse temperature, humidity, carbon dioxide concentration, light intensity and other parameters

- According to different crop varieties, you can manually / automatically set monitoring range of temperature, humidity, carbon dioxide concentration, light intensity and other parameters

- You can set the system control state: manual control and automatic control. Under manual control, the system only has a parameter detection and warning function, not control to motors, pumps and other control equipments; under automatic control, the system only has the parameter detection and warning functions, but also automatic control to motors, pumps and other control equipments

- Inside front-end equipment of intelligent greenhouses can work alone, but also has remote data transmission, storage, networking and other functions

- Computer in control center via a wired or wireless network can be connected to multiple front-end equipments, and can detect, control the controlled object of these devices.

4. System Features

- System based on IOT architecture platform, with high flexibility, stable and reliable operation.

- Integrated greenhouse intelligent monitoring terminal, high integration level, easy to install, easy to maintain.

- Specifically customized system interface for the agricultural customers, friendly interface, easy to operate.

- Flexible configuration capabilities, can be maximized to meet the individual needs of different customers.

- Support for computers, mobile phones and other terminals access, provides intelligent mobile client software, you can monitor the greenhouse environment anywhere.

- SMS with deep integration, environmental problems will be reminded to the user at the first time to reduce environmental risks to the greatest extent.

- Good system scalability, support secondary development, can be deeply integrated with a customer's existing information systems.

5. Service System

- Energy-saving services: Energy-saving design / energy-saving projects

- Technical support service: System upgrade / system diagnostics / system maintenance

- Energy monitoring service: Monitoring program design / IOT integration / project

implementation