Application

Beyond Organic, Know the Vegetables You Are Eating - Digital Transformation of Organic Farms

Background

The main goals of the greenhouse farm are to provide organic vegetables and promote the improvement of environmental ecology. The farm's current product planning development includes introducing organic cultivation products suitable for all agricultural production processes, such as organic fertilizers, liquid fertilizers, control materials, etc., and continuously improving these activities. The greenhouse farm also actively invests in new organic farming methods to produce agricultural products that meet the requirements for human consumption and provide safety protection for consumers' health.

Challenge

The greenhouse's spraying of nutrients is based on the temperature, humidity, illuminance, and pH value to provide the most suitable growth environment for vegetables. The best capacity and efficiency are achieved by quality uniformity and stability.

The owner of the greenhouse farm manages 50 soil testers in the greenhouse and needs to monitor them 24 hours a day. The greenhouse farm is expected to replace a large amount of manpower. It can respond immediately with an intelligent greenhouse agricultural automation monitoring system. It needs IoT gateways that can connect to various types of sensors, collecting and transmitting data to the maintenance management platform.
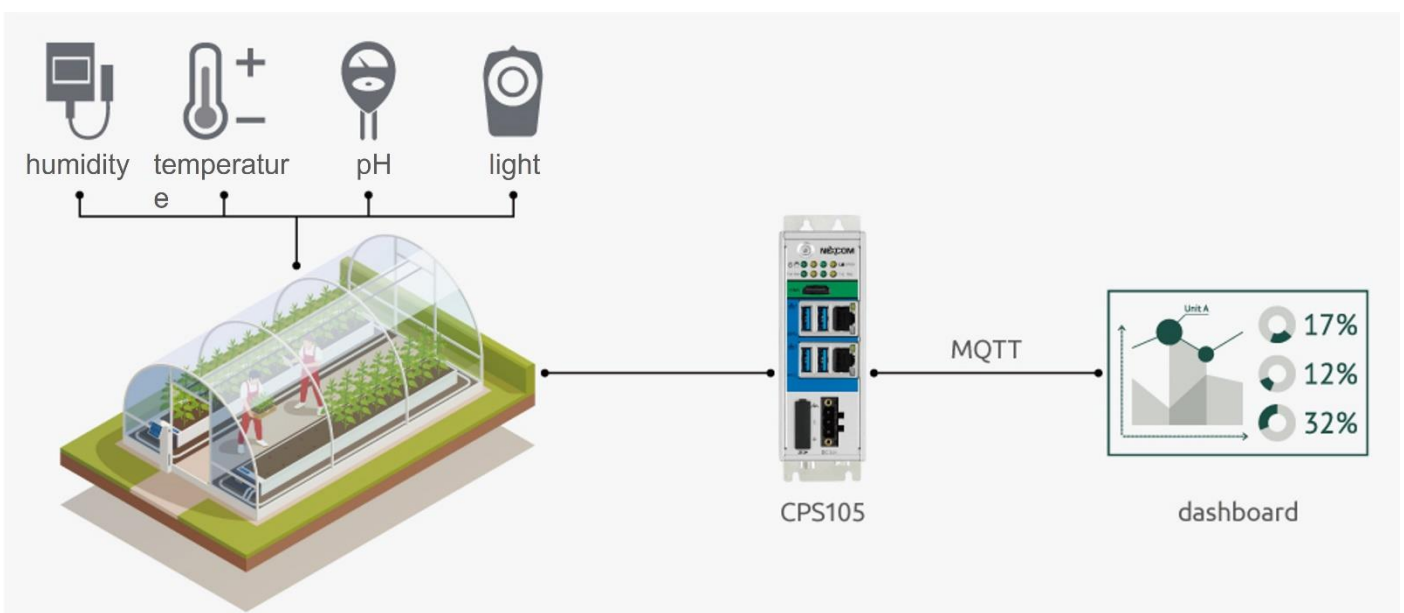
Solution

-IoT Gateways: NexAIoT CPS105

NexAIoT's CPS105 Gateway can be connected to a soil tester to receive real-time data, including temperature, humidity, illuminance, and pH value. The gateway sends the data to the maintenance management platform via MQTT and controls the farm's status with a zero-time discrepancy.

Results and Benefits

The greenhouse farm owner managed the 50 soil testers connected to the greenhouse plant area through the CPS105 gateway, recorded the temperature, humidity, illuminance, and pH value in a timestamp mode. The gateway provided users with a browser to monitor the 50 soil testers. In addition to internal management, NexAIoT CPS105 can also be used as a product history tracker to allow consumers to eat the vegetables with more peace of mind.

NexAIoT CPS105 recorded the soil's environmental value and served as alarm management. It can inform the staff of the status of the plant in real-time, adjust the ecological settings of the greenhouse with a quick response, and organize each event into historical data and upload it to the maintenance management platform. With CPS105's assistance, the owner of the greenhouse farm provided the best growing environment for vegetables at the greatest efficiency and least cost.

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