

Smart Agriculture – A system that makes you feel at ease



Netvox smart agriculture solution saves you all the trouble in farming such as safety patrol, watering, anti-burglary, anti-pest, anti-birds, anti-foehn and fill light for the crops. We can help you achieve your goal – no matter what it is!





Importance

- 1. Agriculture is the main source livelihood of mankind.
- 2. Agriculture supports the development of mankind. Without agriculture, there is no culture.
- 3. Agriculture is the backbone of economic system of a country and the basis for economic development.
- 4. Control food and you control the people.
- The challenges agriculture faces
- 1. Climate impacts: Unpredictable temperature changes can cause damage to crops.
- 2. Natural disasters: Lack of information on unpredictable natural disasters can cause a significant loss of profit.
- 3. Labor shortage: It takes a lot of time to take care of the crops on a large farm.
- 4. Burglary and birds
- 5. Butterflies and pests



According to the damage analysis, natural disasters (typhoons, rainstorms and snow) cause the

greatest loss in agriculture. Bird and burglary are the second place with pest and temperature tied for the third place. As pesticides are widely used, it's relatively easy to prevent pest damage.

• How to increase crop yield ?



Technology brings changes to agriculture



-Smart: Monitor the temperature and humidity of the air and soil -Relieved: Once the anti-foehn system detects foehn situation, you'll be notified and the watering system will be activated automatically to minimize the damage caused by foehn

- -Relaxed: Automatic watering system saves you the trouble of watering the crops.
- -Secure: All-day surveillance provides anti-burglary and anti-bird solution.
- -Safe: View live videos from ip cameras anytime, anywhere.

Netvox provides you with smart agriculture solution







- 1. Founded in 1995
- The Netvox building covers an area of 15,600m² with the total investment of USD 15 million. There are more than 250 employees, including 50 engineers and technicians, 10 Q.C. technicians and 20 administrative staffs. More than 90% of the products are sold abroad, and the yearly turnover is USD 15 million.
- Netvox's company policy is to provide customers with comprehensive products and services in the most economical and effective way. From the procurement of raw materials, plastic molding and production, to the assembly and packaging of the products, Netvox guarantees every aspect of the manufacture process is under strict quality control.
- 4. Netvox specializes in the development and manufacture of Wireless Sensor Network applications based on ZigBee Home Automation profile open standard on ZigBee Pro platform.



Patents

Netvox thrives to provide a total solution that is simple and smart.

- 1. Solutions are available for smart home, health care, smart agriculture and security.
- 2. Netvox continues to provide application and product updates based on different wireless technology to maintain our edge and leadership.



Total solution



• System Structure



• Solve your problems:



1. Safety patrol

- Problem: It's tiring to secure your farm.
- Solution: From Netvox app, you can view live videos from different ip cameras by swiping to left or right on app. The angle is adjustable as well.

2. Watering the crops

- Problem: It takes a lot of effort to water all the crops.
- Solution: From Netvox app, you can get information on UV %, temperature and humidity and water the crops if necessary.

3. Anti-burglary

- Problem: The crops are easily stolen from an insecure farm.
- Solution: When the PIR sensor detects motion, the light is turned on and the siren generates an alerting sound to scare away the thief. You'll receive push messages, and the night vision camera enables you to see clearly even at night.

4. Anti-bird

- Problem: Scarecrows don't work anymore.
- Solution: A solar-powered siren generates bright light and different noises to scare off the birds once they're detected.

5 · Fill light

- Problem: Some flowers need to receive more light to bloom faster, but sometimes it's easy to forget to turn on the light.
- Solution: The light will be turned on automatically when the light level is below a certain value, and it will be turned off when the light level is above that value.

6 · Anti-pest

Problem: Pesticides are harmful to the environment.



Solution #1: Turn on and off the pest control lamp based on a schedule.

Solution #2: Turn on the pest control lamp based on the light level detected and then turn it off after a period of time e.g. 3 hours, 6 hours or 12 hours.



7. Anti-foehn

- Problem: There's no effective way to ease the foehn situation.
- Solution: Once the system detects that the temperature is too high and the humidity is too low, you'll be notified and the watering system will be activated automatically to minimize the damage caused by foehn.

8. Lighting



There are two different lighting devices available for you to choose based on your needs:

- 1. 110V fill light for fruit trees
- 2. 12V solar-powered lamp that usually serves as street light

9- Smart watering

You can set the threshold for temperature and humidity on app to activate the automatic watering system.

10- Easy-to-use app



♦ Case Study



• Custard Apple



About Custard Apple:

It can be stored for a long time after harvest, and it's suitable for long distance transportation.

It's a highly profitable crop in Tai-tung, Taiwan.

Foehn and thief can cause great damage at its flowering and fruiting stage.

Recommended solution: Foehn alerting system, burglary alerting system with ip camera,

automatic watering system with Netvox app.

Betel Leaf



About Betel Leaf:

It's served with betel nut.

Although the government has been persuading people not to chew betel nuts, there are still hundreds of millions in sale every year. It cost about 1.6USD per kilogram now, but can cost 160USD per kilogram during the non-harvest season.

As it's expensive, it's required to install a secure anti-burglary system.

Temperature is most important for seed germination, so a temperature and humidity monitoring system is crucial as well.

Recommended solution: Temperature and humidity monitoring system, burglary alerting system

with ip camera and Netvox app.



• Dragon Fruit and Sugar Apple

About Dragon Fruit and Sugar Apple

- Research shows that using fill lights can adjust harvest schedules and increase the number of harvests.
- 200W to 400W halogen lamps are commonly used for growing Sugar Apple but they can cause serious light pollution especially when they're installed near the roads. 60W incandescent bulbs are used for growing Dragon Fruit. The electricity bill can be as high as US\$4000 per 9699 square meters per production cycle.

An anti-burglary system is also recommended to protect these high-value crops. Recommended solution: lighting control system, burglary alerting system with ip camera, automatic watering system with Netvox app.

• Chrysanthemum



About Chrysanthemum

Chrysanthemum needs to receive more light to bloom faster.

Incandescent bulbs are used for lighting but can lead to high material and electicity cost.

Recommended Solution: lighting control system and automatic watering system with Netvox app.

Rice



About Rice:

Birds trouble farmers the most, and firecrackers are the most popular anti-bird solution. Recommended solution: solar-powered Z725 working with Z602A can play anti-bird sounds.

• Small-flowered camphor tree (Cinnamomum kanehirae

Hayata)



About Small-flowered camphor tree

- It's a special type of camphor that is profitable with high medical value.
- It's commonly used to make furniture and extract oil.
- Antrodia cinnamomea that grows on Small-flowered camphor trees is used in Taiwan medicine as a remedy for cancer, hypertension, and hangover.

Birds trouble farmers the most, and firecrackers are the most popular anti-bird solution. Recommended solution: solar-powered Z725 working with Z602A can play anti-bird sounds.

Coffee



About Coffee:

Coffee is a popular drink in many countries and people enjoy coffee in social gatherings.
Birds and pests trouble farmers the most.

Recommended solution: Anti-bird system working with pest control lamps and Netvox app.

• Vegetable



About vegetable:

Birds trouble farmers the most.

Consumers prefer organic vegetable due to worries on pesticide residues.

Recommended solution: Anti-bird system, pest-control lamp and automatic watering system with Netvox app.

• Potted plants



About Potted plants

- They need to be watered regularly.
- Some plants need to receive more light to bloom faster and grow better.
- Sometimes birds can cause damage to the potted plants.

Recommended solution: Anti-bird system, lighting control system and automatic watering system with Netvox app.

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Netvox Smart Butler

Netvox Smart Life