申泰新能 SENTA

SMART ENERGY/GREEN CONSTRUCTION/NEW AGRICULTURAL SYSTEM INTEGRATOR

MOBILE PLANTING CABIN

PROJECT PROFILE

SENTA ENERGY CO., LTD.

2023-6

申泰新能
SEINTA

CONTENTS

01 PROJECT BACKGROUND

申泰新能 SEINTA

Global Agricultural Situation

Current State of Global Agriculture：

- Frequent extreme weather
- Rapid population growth,Huge grain consumption
- Shortage of land and Declining soil fertility
- Global irrigation water stress
- Disease in crop products leads to reduced production
- Low efficiency of production methods

Solution — Mobile Planting Cabin：

- Indoor planting, Artificial environment
- A type of vertical agriculture,reduce the land using
- No pesticides,No pollution
- Nutrient solution planting,Low water consumption
- High yield per unit area
- Energy self-sufficiency through solar energy system
- Portable and lower transportation cost
- Provide high-skilled jobs

02 PROJECT SOLUTION

Planting System Overview

Hardware Facilities

1.Supporter：Customized modular cabin（Required）

2.Plant Equipment：Planting rack,Planting tray（Required）

3.Energy Source：PV system with ESS（Optional）

4.Heat Source：PVT heating system（Optional）

5.Illuminant: Planting LED（Required）

5.Water Source：Rainwater collection and purification System（Optional）

Remote automated life support system（Optional）

Planting and energy management system, remote control, monitoring, alarm system, etc., Unattended Systems.

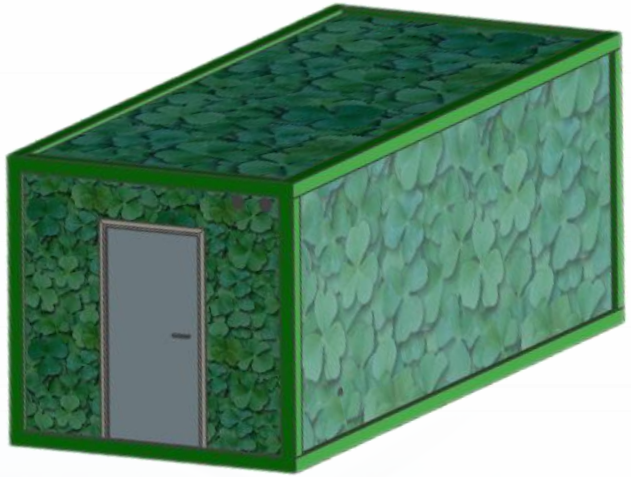
Operation platform

With digital intelligent Senta social media platform, communitilized commercial site and application of itelligent data analysis，optimizing customized parameter settings with customer preference, plant species and agricualtual technology.

02 PROJECT SOLUTION

Configuration

V1.0 Basic version（Manual）

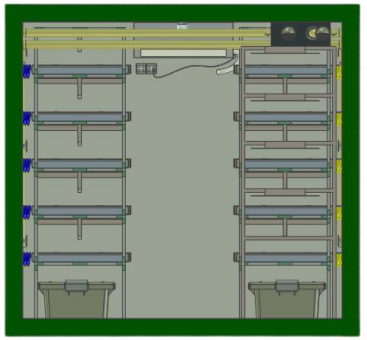


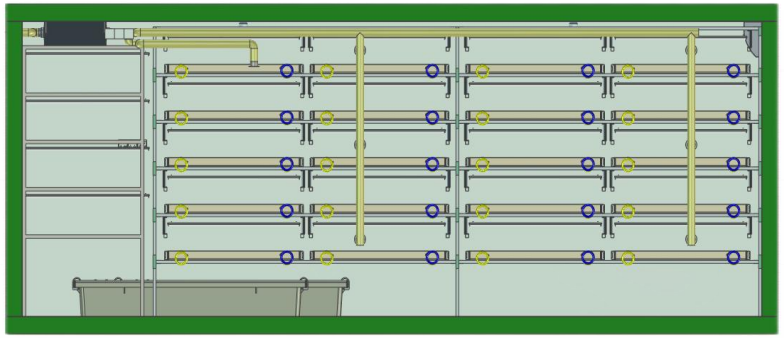
4P × 3Days (container+planting facility）

Installer

1P × 1 Planting cycle

Agronomist





Basic configuration：

1、Planting cabin * 1 set【Supporter】
2、Air conditioner * 1 set
3、Planting system * 2 sets
4、Planting LED * 1 set
5、Vegetative growth fluid * 2 sets
6、Water pumps * 2 sets
7、Seedling system * 1 set
8、Power distribution box * 1 set
9、Cables & Switches * 1 set
10、Consumables（Vegetative growth fluid、Planting sponge、Seeds）

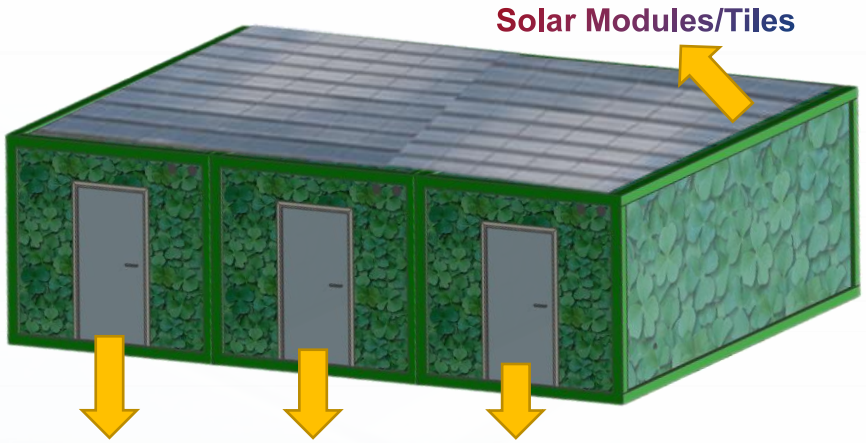
Operating manual：

1、Full manual management，；
2、Full manual works over planting process;
3、No Solar PV system, Loads is connected to the grid
4、Municipal water supply

Configuration

申泰新能 SEINTA

V2.0 Advanced version（Semi-Automatic）



4P×10Days (Supporter+planting facility)

Installer

2P × 1 Planting cycle

Agronomists

Configuration：

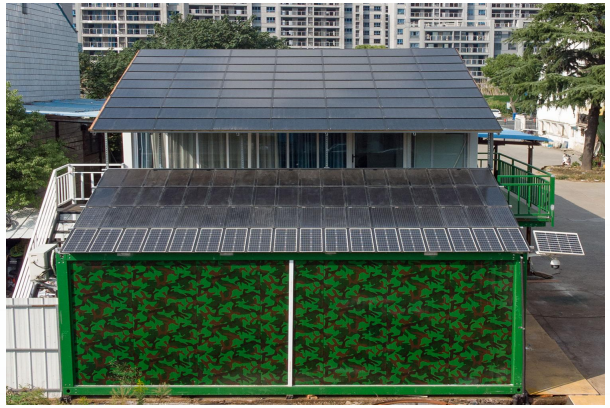
1、Planting cabins * 2 sets
2、Living/office cabin * 1 set
3、Remote automated life support system * 1 set
4、Air conditioner * 1 set
5、Planting system * 4 sets
6、Planting LED * 2 sets
7、Vegetative growth fluid * 2 sets
8、Water pumps * 4 sets
8、Seedling systems * 4 set
9、Power distribution box * 2 sets
10、Cables & Switches * 1 set
11、PV system * 1 set（Optional）
12、Energy Storage System（Optional）
13、PVT heating system * 1 set（Optional）
14、Consumables（Vegetative growth fluid、Planting sponge、Seeds）

Operating manual：

1、Remote automated life support system，Automatic control LED,Pumps,Air conditioner; It can also be controlled manually.
2、In addition to manual operation during the breeding period and harvesting period, other operations can be completed automatically
3、Hybrid solar system supported energy to loads, with maximum flexibility and adaptability to enviroment and loading conditions.

02 PROJECT SOLUTION

Application cases



Solar PV system

Residential / Office Cabin

Energy Storage System

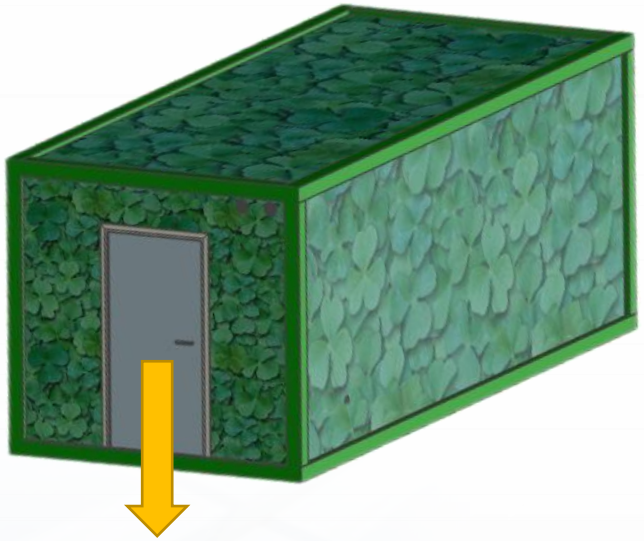
Planting Racks

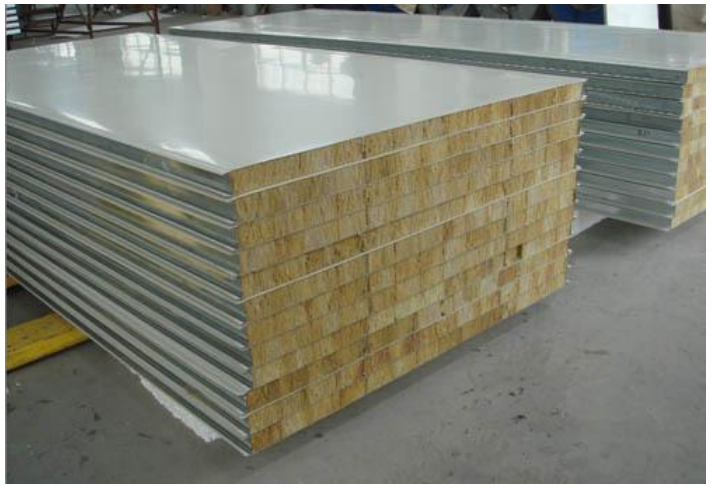
Planting

Harvest

02 PROJECT SOLUTION

Container Supporter

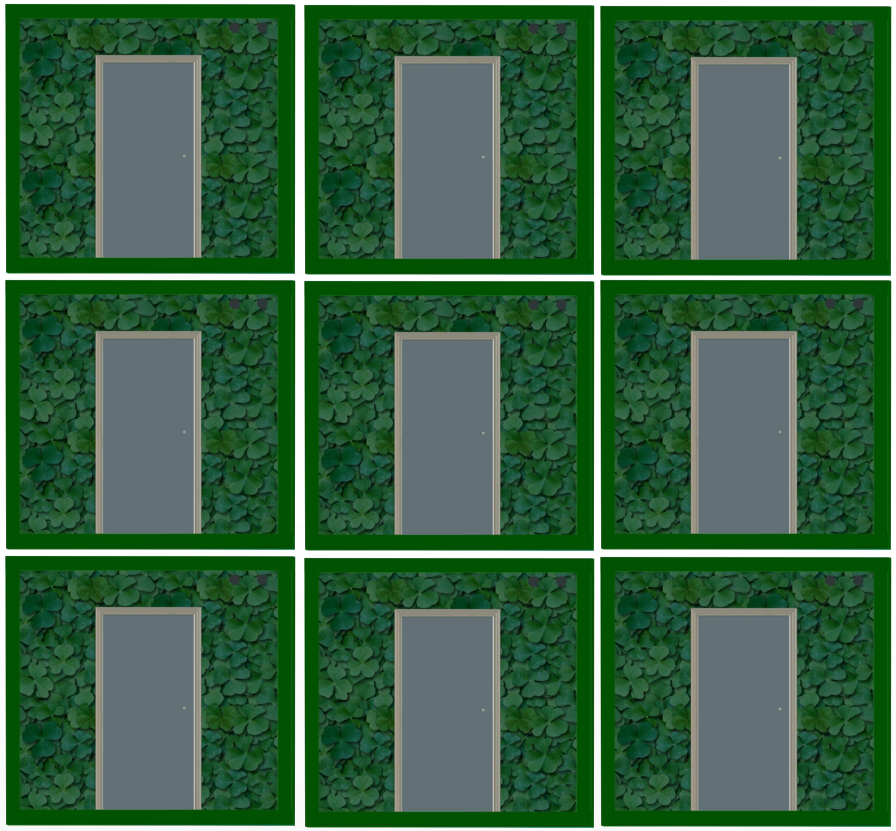




- ✓ Rapid assembly container is applied as the main Supporter ;
- ✓ Thermal insulation material as a wall panel, has a good thermal insulation effect ;
- ✓ Realizing controllable internal operating system of the cabins ;
- ✓ Modular designed units，portable，It is simple to assemble and can be easily transported

02 PROJECT SOLUTION

Reduce the land using



Stackable design saves spaces , Increase output per unit area

TAIQING TESTING 泰庆检测

CMA 181600140130

检 验 检 测 报 告

Inspection Report

报告编号: XSSP202310690

样品名称: Sample Description	航育碧玉 1 号
生产单位: Manufacturer	/
委托单位: Clientele	无锡申泰新能源科技有限公司
检验类别: Test Type	委托检验

河南泰庆质量检测有限公司

Henan TaiQing Quality Testing Co.,LTD

防 伪 码

地址：河南自贸试验区郑州片区（经开）第八大街 160 号附 15 号一层东侧、二层
电话：0371-63313341 邮箱：taiqingtesting@163.com

TAIQING TESTING 泰庆检测

检 验 检 测 报 告

Inspection Report

报告编号: XSSP202310690

样品名称 Sample Description	航育碧玉 1 号	商标 Trade Mark	/
生产/购进/加工日期 Produced/Purchased/ Processed Date	/	规格型号 Specification	/
样品等级 Sample Grade	/	样品数量 Sample Quantity	100 克
委托单位 Clientele	无锡申泰新能源科技有限公司	生产单位 Manufacturer	/
送样人员 Deliverer	沈袁玲	检验类别 Test Type	委托检验
样品编号 Sample Number	XSSP202310690	样品状态 Sample Status	固体
样品接收日期 Delivered Date	2023-06-02	检验日期 Testing Date	2023-06-02 至 2023-06-08
检验项目 Test Items	铅(以 Pb 计)，总砷(以 As 计)，总汞(以 Hg 计)等 5 项。		
判定依据 Judgement	GB 2762-2017		
检验结论 Test Conclusion	经检验，所检项目符合 GB 2762-2017 要求。 (检验检测专用章) 签发日期： 2023-06-08		
备注 Remarks	1.以上样品信息由委托方提供		

批准： 审核： 编制:

地址：河南自贸试验区郑州片区（经开）第八大街 160 号附 15 号一层东侧、二层
电话：0371-63313341 邮箱：taiqingtesting@163.com

TAIQING TESTING 泰庆检测

检 验 检 测 报 告

Inspection Report

报告编号: XSSP202310690

序号 №	检验项目 Test Items	单位 Unit	检验方法 Test Methods	标准指标 Standards	检验结果 Test Results	单项结论 Conclusion	备注 Remarks
1	铅(以 Pb 计)	mg/kg	GB 5009.12-2017 (第二法)	≤0.3	0.148	符合	/
2	总砷(以 As 计)	mg/kg	GB 5009.11-2014 (第一篇第一法)	≤0.5	未检出(<0.010mg/kg)	符合	/
3	总汞(以 Hg 计)	mg/kg	GB 5009.17-2021 (第一篇第一法)	≤0.01	未检出(<0.01mg/kg)	符合	/
4	镉(以 Cd 计)	mg/kg	GB 5009.15-2014	≤0.2	未检出(<0.003mg/kg)	符合	/
5	铬(以 Cr 计)	mg/kg	GB 5009.123-2014	≤0.5	0.11	符合	/
	以下空白						

*** 报告结束 ***

声明：
1. 本报告无我单位“检验检测专用章”及批准人签字无效；
2. 委托样品信息均由客户提供，结果仅适用于收到的样品；
3. 本报告及我单位名称未经我单位书面同意，委托方不得擅自进行宣传；
4. 本报告涂改、增删、复制无效；
5. 若对本报告（结果）有异议，应在收到报告之日起 15 天内，向我单位提出异议，逾期不予受理。有相关法律规定或合同约定的应从其规定（约定）。
6. 带“**”标记为本公司非计量认证项目，该数据仅供参考，不具有对社会的证明作用。

地址：河南自贸试验区郑州片区（经开）第八大街 160 号附 15 号一层东侧、二层
电话：0371-63313341 邮箱：taiqingtesting@163.com

02 PROJECT SOLUTION

High Efficiency

申泰新能 SEINTA

01 Planting tray

It's made of food-grade plastic

02 Fresh air ventilator

Exchanging in-external air

03 Nutrient fluid circulation system

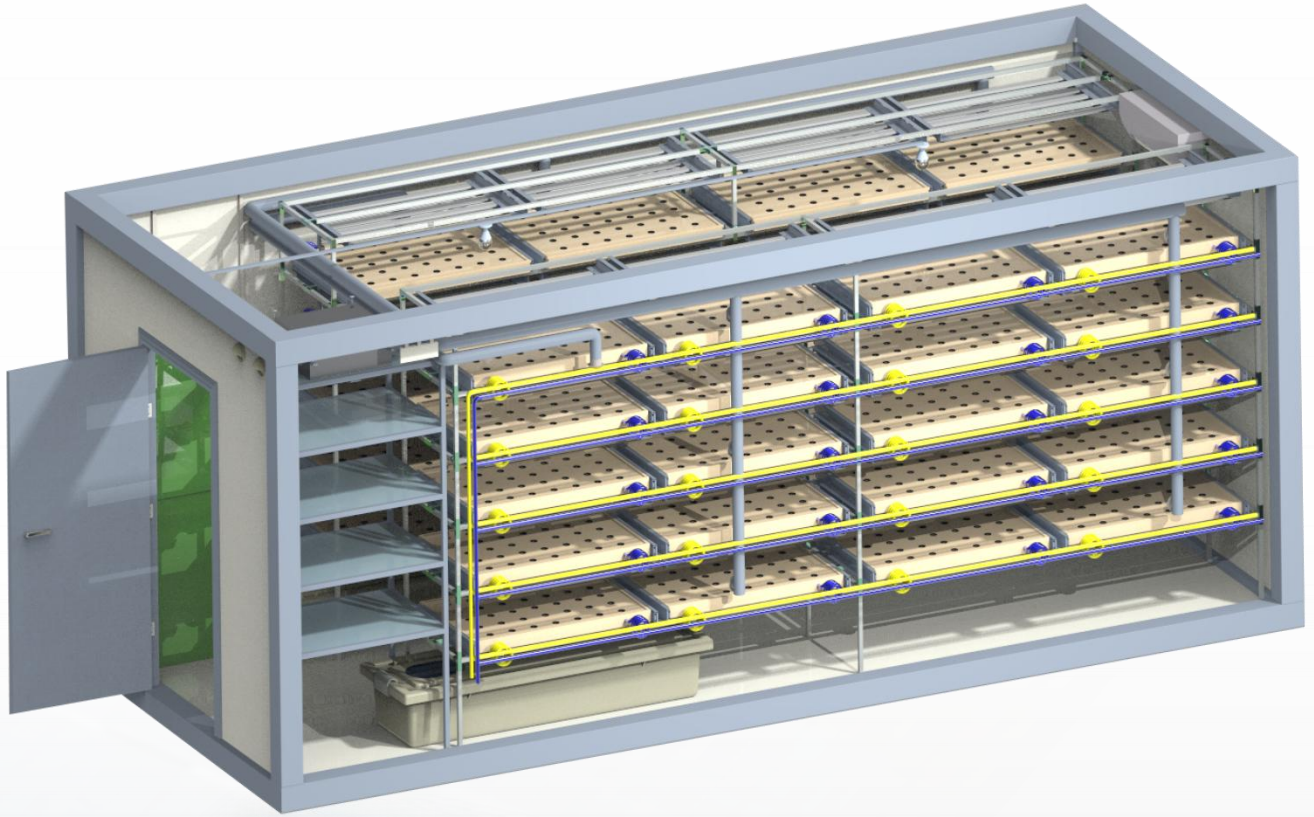
Keep the plants getting nutrients

04 LED

Mimicking the sun makes plants grow better

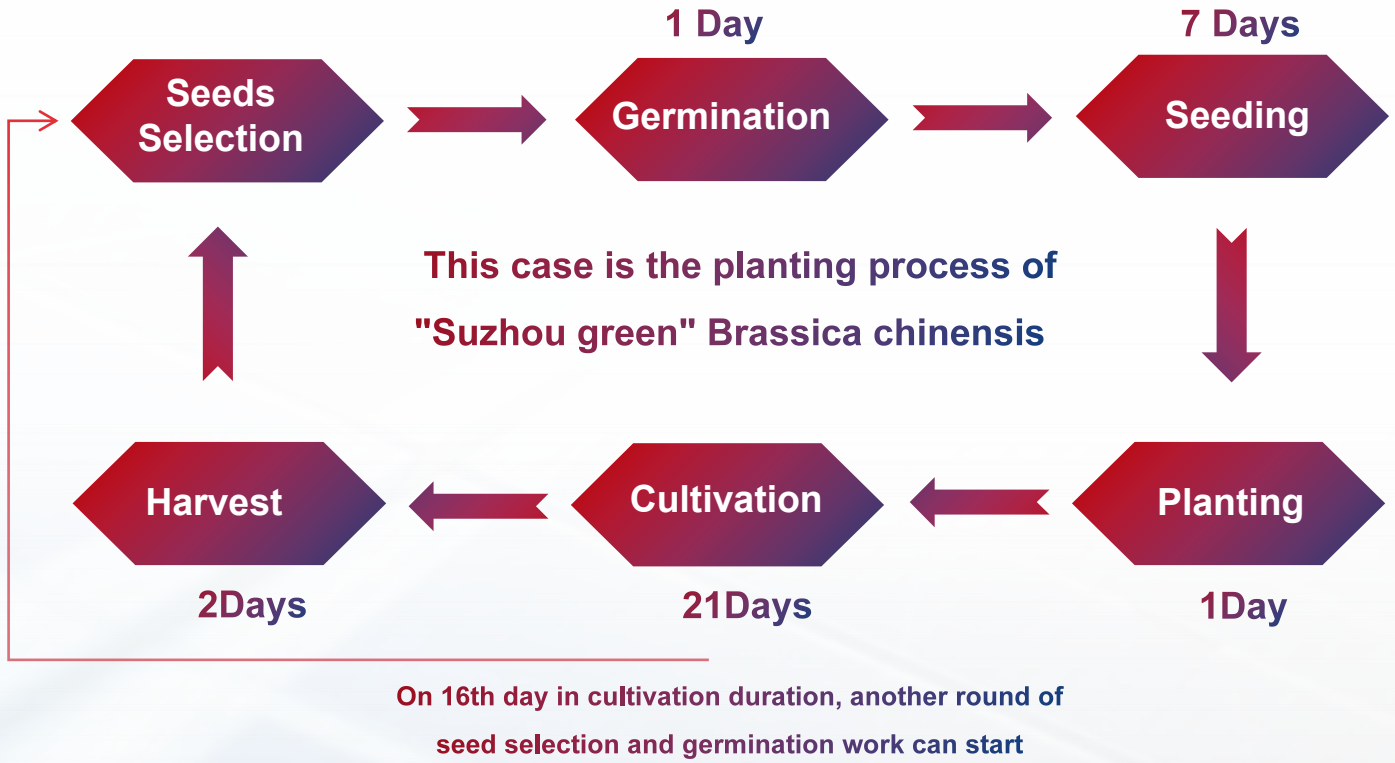
05 Air conditioner

Automatically adjust the indoor temperature, so that plants can grow better



02 PROJECT SOLUTION

Scientific Planting



01 Seeds Selection

Select good quality seeds to ensure high product quality

02 Germination

Use scientific methods to promote germination to ensure that the seedlings are strong enough

03 Seeding

Scientificly monitored indoor climte with sufficient light and nutrition

04 Planting

The fully developed seedlings are manually transferred to the planting trays

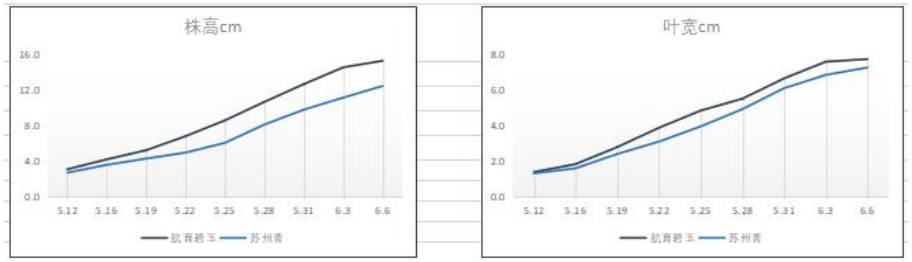
05 Cultivation

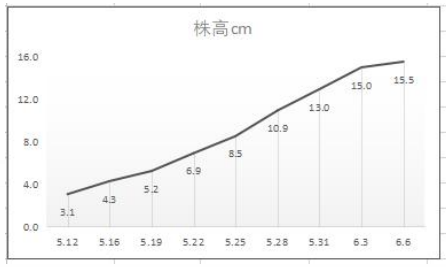
The planting coefficient developed by the university is used to ensure rapid plant growth

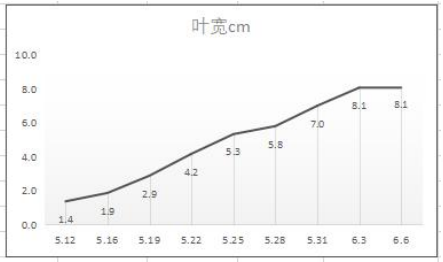
06 Harvest

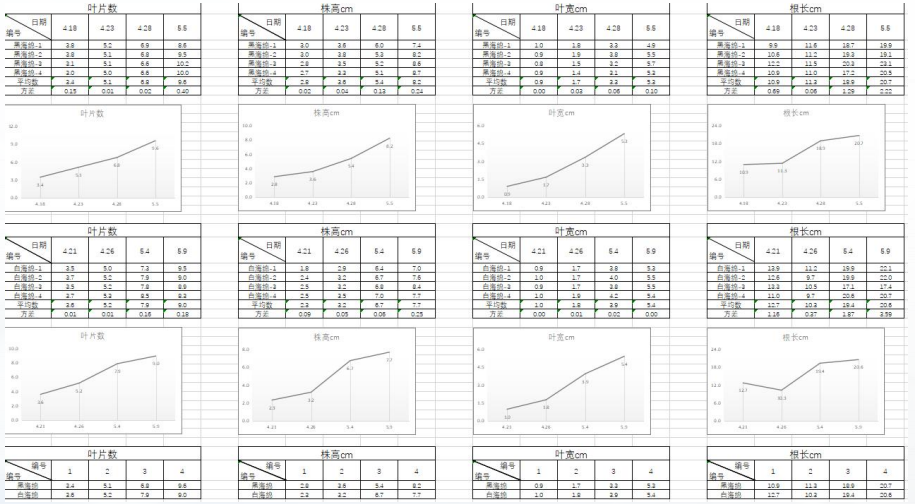
Manual harvest according to demands.

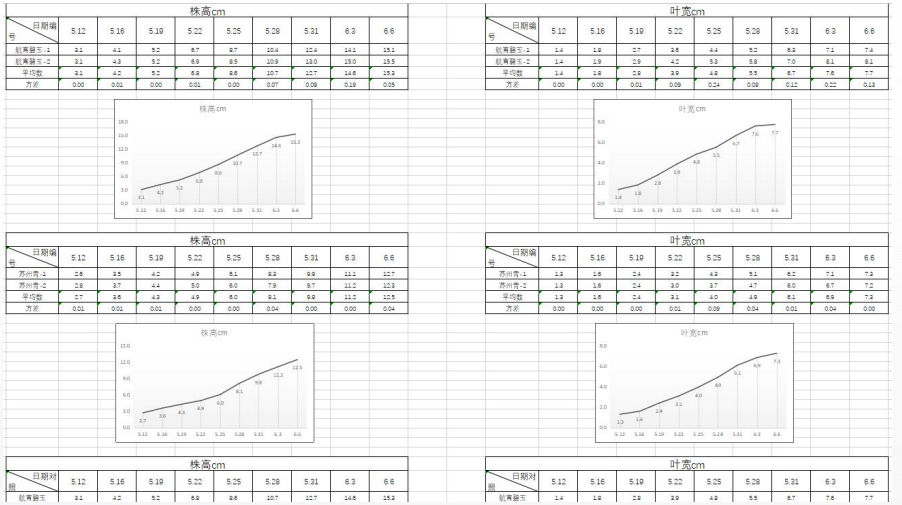
Plant growth parameter











02 PROJECT SOLUTION

Employment Opportunity

Providing high-quality employment opportunities from installation to use, and solve social and people's livelihood problems;

During the planting process, it is necessary to recruit agronomists. After training, agronomists can be employed to improve the technical level of relevant personnel and engage in high-tech positions.

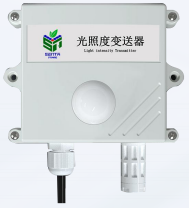
02 PROJECT SOLUTION

Environmental monitoring and control system

1. Temperature and humidity sensor

4. Carbon dioxide sensor

2. Light intensity sensor

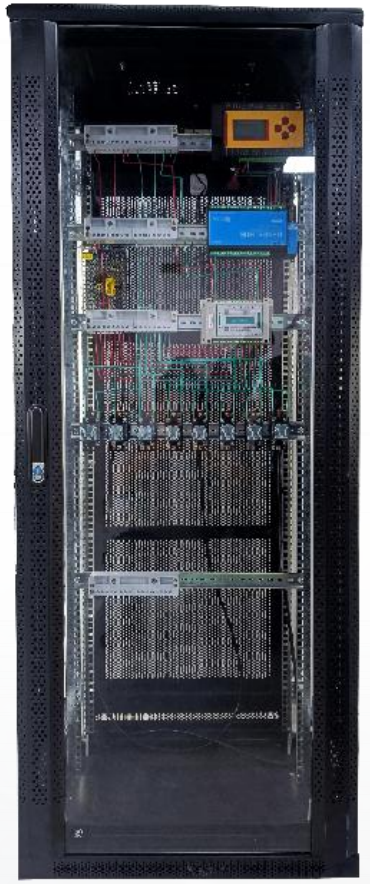


5. Vegetative growth fluid EC sensor

3. Air conditioning controller

6. RS485 meter

Collect data



PLC Automatic Control Center

Send control Signal

01 Receive the switch signal, automatically open or close Pumps

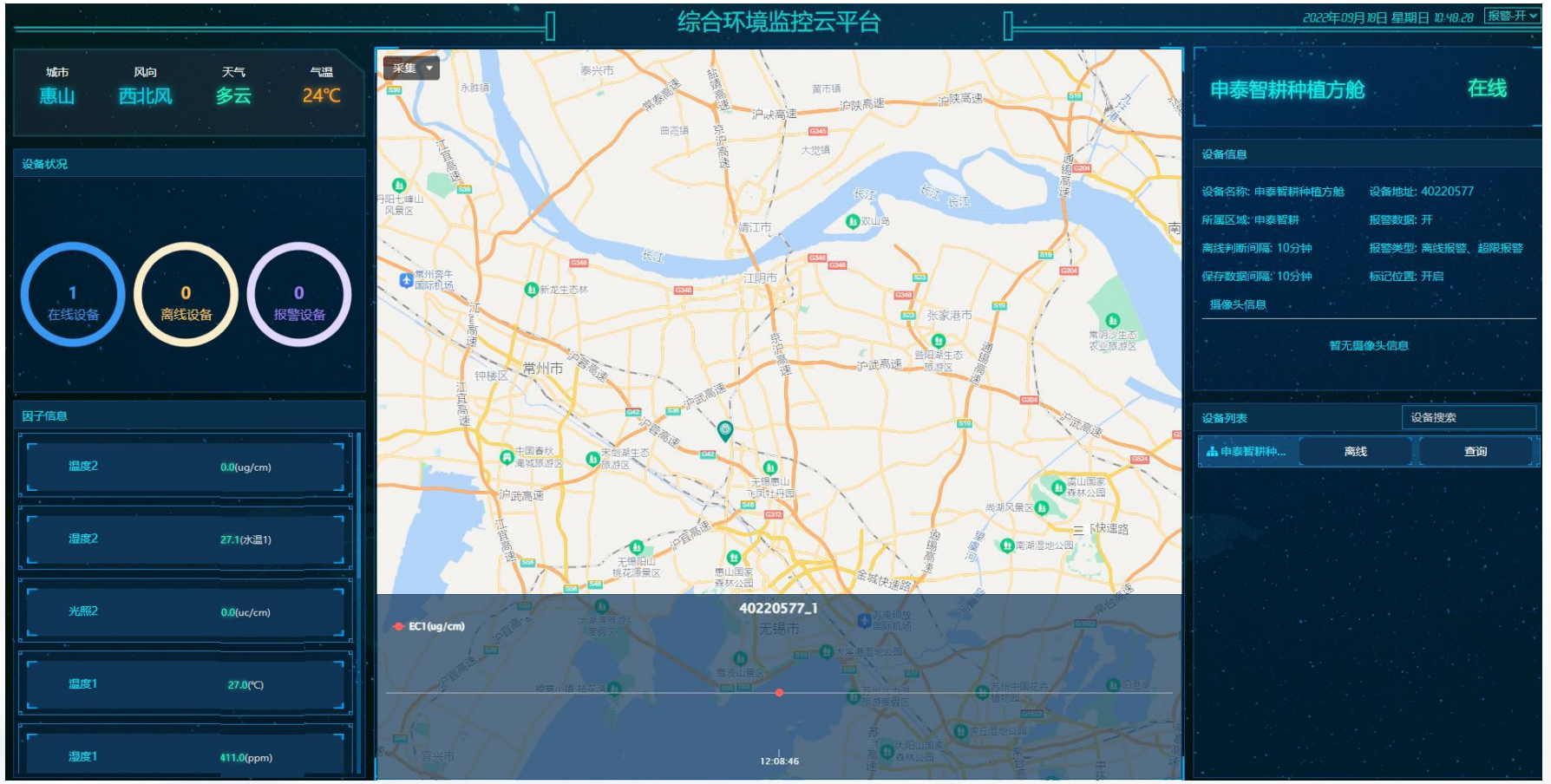
02 Receive the switch signal, automatically open or close Air Conditioner

03 Receive the switch signal, automatically open or close LEDs

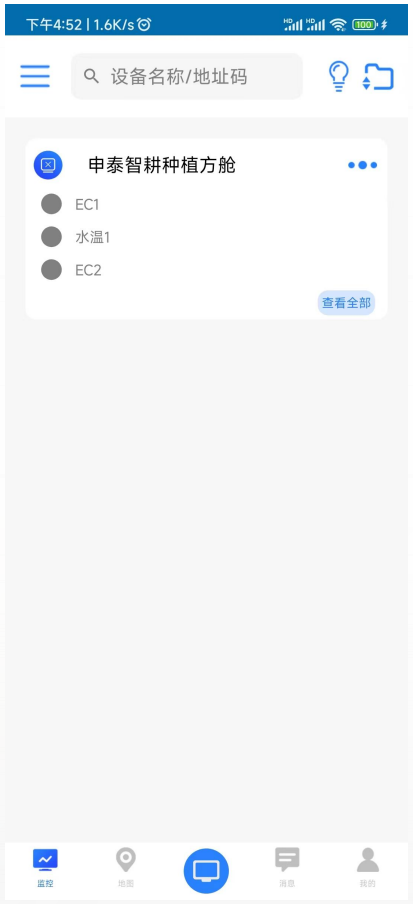
04 Receive the switch signal, automatically open or close Fresh air ventilator

02 PROJECT SOLUTION

Intelligent monitoring and control platform



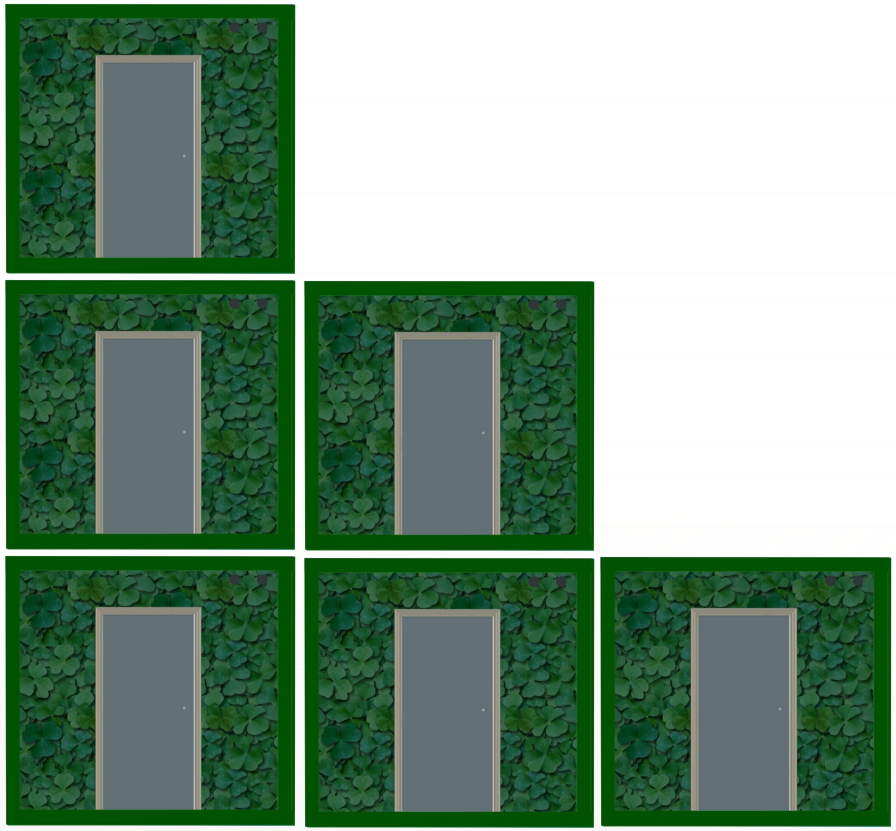
PC control Web platform
(English version page can be customized)



Smart Phone APP
(English version page can be customized)

02 PROJECT SOLUTION

Portable Supporter



The cabin can be transferred by crane and truck at any time,and Free stacking

02 PROJECT SOLUTION

Solar system

01 Solar Tile——Solar Energy

A new type of green building material with BIPV concept. The solar electricity can be stored in the battery to achieve self-sufficiency in electricity.

02 PVT system——Heat Supply

A new type of heating system with PVT sheet to collect light and air heat.

03 Container Module——Supporter

Easy to transport, mobile,etc.

02 PROJECT SOLUTION

Independent intellectual property rights


中华人民共和国国家版权局
计算机软件著作权登记证书

软件名称：申泰综合能源采集系统管理软件 V1.0
著作权人：无锡申泰新能源科技有限公司
开发完成日期：2020年09月25日
首次发表日期：未发表
权利取得方式：原始取得
权利范围：全部权利
登记号：2021SR0066761

根据《计算机软件保护条例》和《计算机软件著作权登记办法》的规定，经中国版权保护中心审核，对以上事项予以登记。

2021年09月13日

Senta Integrated Energy Collection System Management Software


实用新型专利证书

实用新型名称：一种构件式 BIPV 太阳能光伏瓦
发明人：申小波
专利号：ZL 2020 2 1222921.1
专利申请日：2020年06月29日
专利权人：无锡申泰新能源科技有限公司
授权公告日：2020年12月15日
授权公告号：CN 212163214 U

局长 申长雨

A component type BIPV solar photovoltaic tile


实用新型专利证书

实用新型名称：一种多功能集成化离岛方舱
发明人：申小波
专利号：ZL 2020 2 2200085.6
专利申请日：2020年09月30日
专利权人：申小波
授权公告日：2021年08月31日
授权公告号：CN 214001177 U

局长 申长雨

A multi-functional integrated outlying island shelter


中华人民共和国国家版权局
计算机软件著作权登记证书

软件名称：申泰智慧农场物联网管理平台 [简称：申泰智慧APP] V1.0
著作权人：申小波
开发完成日期：2021年05月21日
首次发表日期：未发表
权利取得方式：原始取得
权利范围：全部权利
登记号：2021SR1427995

根据《计算机软件保护条例》和《计算机软件著作权登记办法》的规定，经中国版权保护中心审核，对以上事项予以登记。

2021年09月26日

Smart Farm IoT Management Platform


国家知识产权局

300000

2022年09月16日

专利申请受理通知书

Invention patent Soilless Cultivation Cabin Management System


外观设计专利证书

局长 申长雨

solar tile


实用新型专利证书

局长 申长雨

A Graphene Solar PVT Thermoelectric Device


实用新型专利证书

局长 申长雨

A Drawable Soilless Cultivation Planting Tray

02 PROJECT SOLUTION

Application scenarios

Project site

City + Desertified area

Remote worksite

Belt and Road Infrastructure

Island

03 PROJECT ACCOUNTING

Take Brassica chinensis as an example

√ Germination Rate	≈ 95%
√ Seedling Cycle	≈ 8 Days
√ Growth Cycle	≈ 22 Days
√ Output (30 days)	≈75 Kg
√ Planting Energy Consumption	≈ 880 kWh
√ Planting Cost	≈ 10g seeds + 1 Vegetative growth fluid + 1 set Planting sponge
√ Dosage of Pesticides	≈ 0
√ Labor Cost	≈  1 pc ×1 planting cycle
√ Environmental Impact	≈ Extremely Low

03 PROJECT SOLUTION

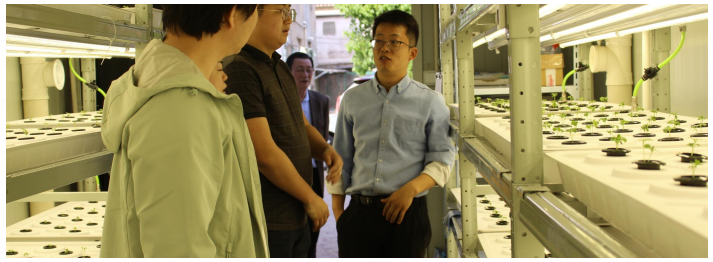
Take lettuce as an example

√ Germination Rate	≈ 95%
√ Seedling Cycle	≈ 7Days
√ Growth Cycle	≈ 28Days
√ Output (35 days)	≈105Kg
√ Planting Energy Consumption	≈ 1120kWh
√ Planting Cost	≈ 10g seeds + 1 Vegetative growth fluid + 1 set Planting sponge
√ Dosage of Pesticides	≈ 0
√ Labor Cost	≈  1 pc ×1 planting cycle
√ Environmental Impact	≈ Extremely Low

03 PROJECT SOLUTION

Planting Case

申泰新能 SEINTA



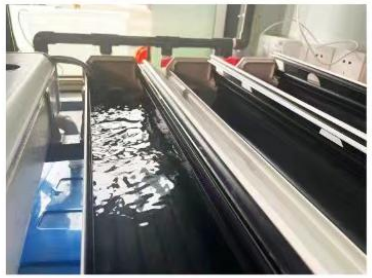





03 PROJECT SOLUTION

Planting Case











04 COMPANY PROFILE

申泰新能 SENTA

About Senta

Senta Energy Co., Ltd. was founded in 2016 and located in Wuxi, Jiangsu, which is a high-tech enterprise mainly engaged in solar power system and energy storage business, new building prefabricated houses and new agricultural distributed planting business.

At present, our company has successively implemented project cooperation with Jiangsu Academy of Agricultural Sciences, Nanjing Agricultural University, Jiangnan University and other universities. We also actively participate in the compilation of local standards in related industry segments.

TUV/CE/ISO certification

More than 30 invention, 50 trademarks and Copyrights

Awarded "National HIGH-TECH Enterprise" , "Jiangsu Private Science and Technology Enterprise", "Science and technology Enterprise " and other qualifications.

02 创新思路
Innovative ideas

SENTA has rich experience in the development of new energy projects implemented at home and abroad and overseas export business, the overseas market covers North America/Europe/Australia/southeast Asia, the Middle East, etc. Products and services are available in more than 20 countries and regions such as the United States, the United States, Canada, Australia, Germany, Spain, Poland, the Netherlands, Cyprus, Indonesia, Vietnam, and Jordan.

New Energy Industry

Design, construction, operation and maintenance of projects such as distributed pv power generation/energy storage power stations/off-grid systems; research and development, production and sales of solar tiles/PVT thermal power/application system products; design and production of lithium battery household energy storage products and projects , sales, implementation

New Construction Industry

Development and design of energy-saving and environmental protection/intelligent/integrated prefabricated buildings, and supporting materials, smart homes; R&D, production, and sales of solar-powered outlying island shelters, etc.

New Agricultural Industry

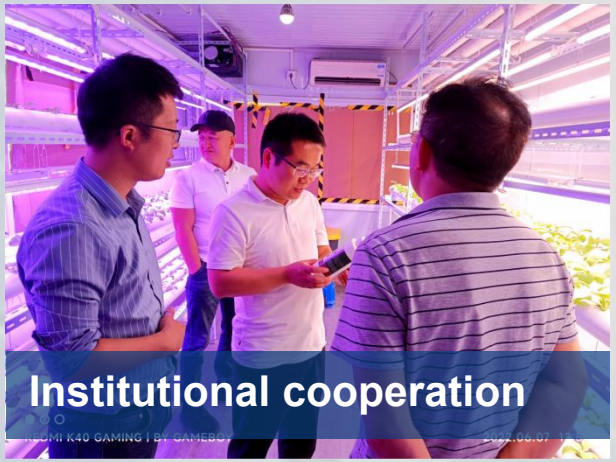
Development, implementation, and operation of projects such as new solar agriculture/distributed container planting

04 COMPANY PROFILE

申泰新能 SEINTA

Industry-university-research

c o o p e r a t i o n



Jiangsu Academy of Agricultural Sciences

- The only comprehensive agricultural scientific research institution in Jiangsu Province.

School of Internet of Things, Jiangnan University

- The first Internet of Things Engineering College in China

Agricultural College of Yangzhou University

- China's famous agricultural university

Team Member

Mellon

SENTA CEO

Responsible for the company's strategic layout and operation management.

Xavier Domic

SENTA Project Engineer

Responsible for project software development and marketing planning.

Happy Shen

SENTA Agronomist

Responsible for planting technology research.

Lu LinLin

SENTA Mechanical Engineer

Responsible for product development and project management.

College cooperation team

Bao Encai

Jiangsu Academy of Agricultural Sciences

The leader of the planting environment engineering and equipment innovation team

Wu Xue

Jiangsu Academy of Agricultural Sciences

Ph.D. mainly engaged in electrolysis of water and light quality Interaction research with plants.

Li Zhengquan

Jiangnan University-School of Internet of Things

A Professor at the School of Internet of Things Engineering, Jiangnan Universit

Gao Pinglei

Yangzhou University

Mainly engaged in research in related fields such as farmland ecology, crop cultivation and farming

Intellectual property rights

- More than 30 patents, including 7 inventions
- Integrated circuit 1 piece
- 6 pieces of software
- More than 60 trademark copyrights, including

1 international trademark

THE END

Thanks for your attention!

SENTA ENERGY CO ., LTD
Web：www.sentaenergy.com
Tel：+86-510-8359 2969
Email：sales@ sentaenergy.com
Address：RM.501,Bld.No.33 Zhihui Road,Huishan District,Wuxi,Jiangsu,China