Blockchain Practice of AgriGarden

Lingling WEI,
Ruidan CHEN
Self Introduction

Dr. Lingling WEI
Professor of CAAS
Founder, Chairman of AgriGarden (from 2002)
Dean of Urban Agriculture Lab, China
Dean of Digital protected horticulture Innovation Center, China

Ruidan CHEN
GM of AgriGarden
Vice Dean of Digital protected horticulture Innovation Center, China
Partner of an AI company (2015-2018)
Dean of HP University, China (2010-2015)
Managing Consultant of HP & IBM (2001-2010)
Who we are?

A subsidiary of Chinese Academy of Agricultural Sciences.

We provide end to end modern agriculture service including:
1. Industry agriculture;
2. Urban agriculture;
3. City farming.

We planned, designed and are operating the National Agricultural Technology Innovation Park, which is Top demo R&D center of global Agriculture Technology.
National Agriculture Technology Innovation Park
**Integrated Innovation Associated Lab**

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<th>Nursery Associated Lab</th>
<th>Seed experiment Associated Lab</th>
<th>Digital Horticulture &amp; AI Associated Lab</th>
<th>Protected Horticulture smart machines Associated Lab</th>
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<td>Fertigation Associated Lab</td>
<td>Tomato automated-cultivation machines Associated Lab</td>
<td>Biological Prevention &amp; Control Associated Lab</td>
<td>Leaf vegetables automatic cultivation machines Associated Lab</td>
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**Visiting Channel**
Our portfolio

plant factory & vertical farm
# Agenda

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Blockchain position in Gartner Hype Cycle in 2018

- **Blockchain**
  - Connected Home
  - Autonomous Driving Level 4
  - Mixed Reality

**Hype Cycle**
- **Innovation Trigger**
- **Peak of Inflated Expectations**
- **Trough of Disillusionment**
- **Slope of Enlightenment**
- **Plateau of Productivity**

*As of August 2018*

- Plateau will be reached:
  - less than 2 years
  - 2 to 5 years
  - 5 to 10 years
  - more than 10 years
  - obsolete before plateau
Blockchain position in Gartner Hype Cycle in 2016 and 2017

Year 2016

Year 2017

Note: PaaS = platform as a service; UAVs = unmanned aerial vehicles

Source: Gartner (July 2016)
Source: Gartner (July 2017)
Blockchain became a hot topic from 2017

Keyword Search frequency

Data Source: www.baidu.com
## Agenda

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Some application of blockchain in China Agriculture

Agriculture Finance

Blockchain Chicken
Plant Growing Model Analysis with AI

Based on machine learning and IoT technology, we built the plant growing model in order to find grow environment factors and relationships among them.
植物工厂综合管理平台（GCMP）
生产计划管理系统（MSMS）
植物工厂物联网控制平台（GCPI）
植物生长模型研究实验平台（APL）
Trust with e-commerce platform

Seeds
- 播种
  - 浇灌
  - 水循环利用
  - 催芽
  - 生长

移苗
- 把幼苗放入基质块
- 运输到温室

Grow
- 智能化精准控制
- 优质化高效生产
- 病虫害科学管控

采收
- 采摘车
- 链式轨道系统
- 采摘车内部传输系统

Packaging
- 装箱卸垛
- 称重
- 打垛
- 捆扎

Distribution
- 储存&仓储
- 调箱处理
- 称重包装
- 包装箱供给

Consumers

采收
- 采摘车
- 链式轨道系统
- 采摘车内部传输系统

Trust with e-commerce platform
Blockchain with e-commerce platform partners

Before cultivation
Seeds, Chemical Fertilizer, Equipment and device

Cultivation
Plant, Breed, harvest

After Cultivation
Agriculture product processing

Client
Customer/Consumer

Foundation Construction-logistic

Foundation Service-Supply Chain Finance, Credit and loan Service

Alibaba.com
Global trade starts here.™

JD.com 多·快·好·省
BlockChain in Supply Chain Financing

- Irrigation
- GreenHouse
- Seeds
- Engineer
- Logistic
- IoT

Horticulture & Starting Material
BlockChain in Supply Chain Financing

Level 1 Partners
- Seeds
- GREENHOUSE
- Irrigation
- Engineer
- Aluminum product
- Water
- Logistic
- Computer
- Steel product
- Textile
- Labor
- Water
- R&D
- Network

Level 2 Partners
- Token 1 million
- Token 100 Thousand
- Token 10 Thousand

Level 3 Partners
- Customer
- Bank

Token
- 1 million
- 100 Thousand
- 10 Thousand
- 10 million

Bank
Customer
Agenda

1. Block chain Journey and trend in China
2. Practice of AgriGarden
3. Grow future together
Blockchain will improve the and relationship in bit world

Bit world
Virtual
money, Insurance, Credit, Relationship, ...etc

Atom world
Real

IoT, AI

BlockChain
Welcome to China, grow future together

Challenges/Opportunities of BlockChain + AgriCulture in China

| Dispersive ... | Lands  
|                | Farmers  
|                | Brand  
|                | ...  
| Supply Chain   | Dispersive  
|                | Far  
|                | Low trust  
| Credit System  | Is forming  
|                | Foundation is not very good  

Grow Future together

Thank you