



**K.K.ORCHARD**

*Sweet Potato*

# Digital Innovation of Sweet Potato Supply Chain

**Jacky Chiu**



## 邱裕翔 YU-HSIANG, CHIU

General Manager  
K.K.ORCHARD

Advanced Master of Business Administration in National  
Cheng Kung University

### Leadership Experience

- Apply technology to entire process supply chain
  - include a rating system and optimize packing, processing, and storage process
  - business mode integrate “production and sales”
- Develop the farm enterprise system
  - optimize yields by combining traditional, technological, and scientific techniques
  - contract farming area from 333 hectares to 1,000 hectares

We have the largest  
sweet potato production.

### Contribute to the influence of the social state

- Improve the aging problem in agricultural village
  - make breakthrough innovations to help senior farmers regain passion
  - attract youth return and learn to farm
  - the number of contract farmers increased from 200 in 2011 to more than 1,000 in 2021





# Sweet Potato Supply Chain



**K.K.ORCHARD**  
Sweet Potato

## Chronology of Events



1983

Yi Tai Agricultural Products Shop



1991

Founding of marketing and processing departments of entire sweet potato



1992

Founding of K.K.ORCHARD



2001

Successfully developed patented product "Frozen Baked Sweet Potato", and exported it to Japan.



2016

3rd generation of K.K.ORCHARD corporate identity



2020

Founding of K.K.ORCHARD Headquarter

## Delivery to Your Table



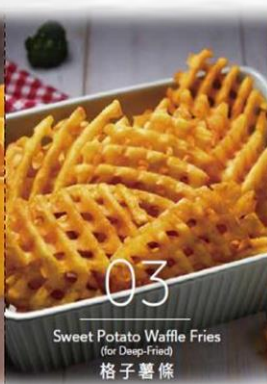
01

Frozen Baked Sweet Potato  
冰烤蕃薯



02

Sweet Potato Fries  
(for Deep-Fried)  
地瓜薯條



03

Sweet Potato Waffle Fries  
(for Deep-Fried)  
格子薯條



04

Golden / Purple Sweet Potato Balls  
(for Deep-Fried)  
黃金/紫金QQ球



05

Peeled Sweet Potato  
磨皮地瓜



06

Honey Sweet Potato  
蜜地瓜



07

Sweet Potato Pearl  
地瓜珍珠圓



08

Sweet Potato Dessert  
九份地瓜圓



09

Sweet Potato Pasta  
地瓜泥



10

Sweet Potato Flour  
地瓜粉

**TAGERT : Partners of customer product development (sweet potatoes)**



# From Farm to your Table- 16 Levels



**1. Grow Healthy Sprouts**



**2. Stem Cultivation**



**3. Species Preservation**



**4. Plug Tray Plantation**



**5. Cultivation at High Elevation**



**6. Greenhouse Cultivation**



**7. Farm Acclimation**



**8. Seedling Cultivation**



**9. Soil & Land Preparation**



**10. Transplant the Seedlings**



**11. Flip Vines and Weed the Farm**



**12. Trim Vines**



**13. Harvest**



**14. Sort and Classify**



**15. Sort and Wash**



**16. Packing and Delivery**

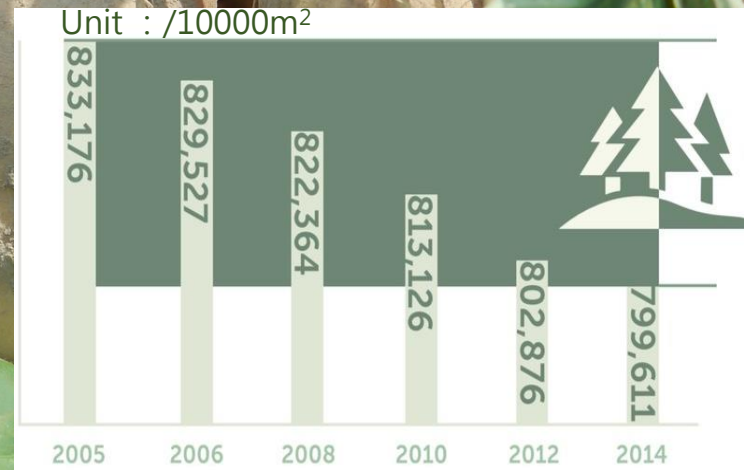




# Challenges

## (Agricultural product supply chain)

- **Climate change**  
Unstable weather causes large changes in profit.
- **Aging population**  
The culture attached much attention to industry and business instead of to agriculture. In Taiwan, the agricultural labor force is aging, their average age is 64.
- **Decrease of cultivated land**  
Rapid industrialization leads to the serious agricultural lands fragmentation. The cultivated land has been drastically reduced that each farmer only has 0.4 hectare cultivated land in Taiwan.



## Challenges

### (Digitization of the agricultural supply chain)

- Behavioral change
- Environmental conditions
- Huge system construction cost





# How We Do It





# Digital Supply Chain Blueprint



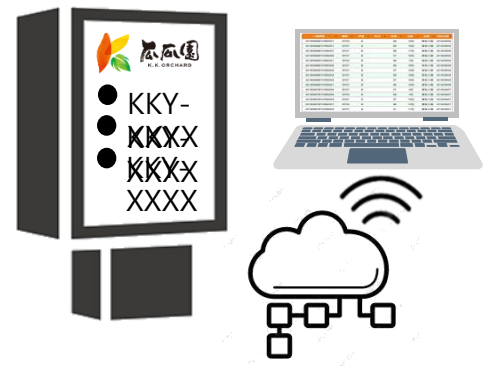
**Traditional labor**



**Intelligent**



**automation**



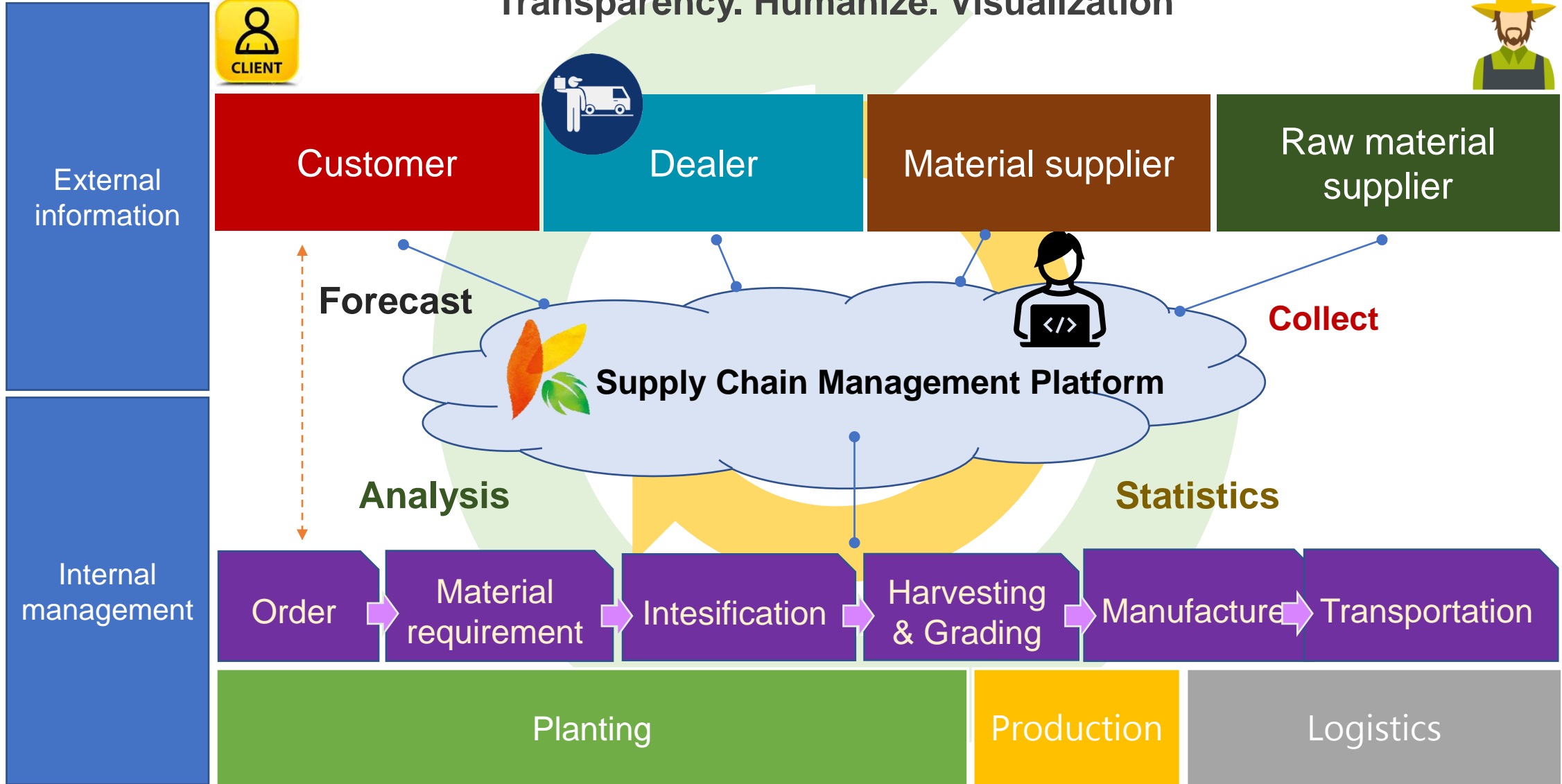
**Before**

**After**



# Digital Supply Chain Blueprint

Transparency. Humanize. Visualization

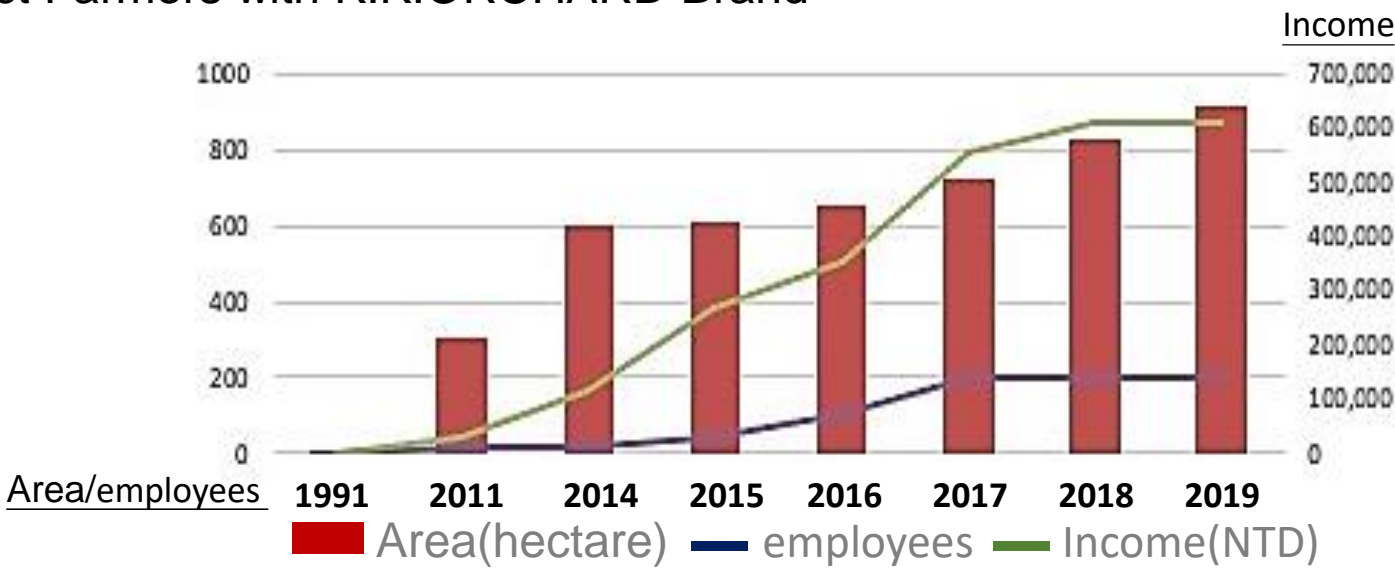




# Digital Supply Chain Effectiveness

In 2019, we've

- Worked over **800** hectare with **712** Contract Farmers with K.K.ORCHARD Brand
- Harvested **30,000** ton Fresh Sweet Potato
- Sorted **300** ton/day
- **5,000** ton Fresh Sweet Potato
- **5,000** ton Frozen Baked Sweet Potato
- **2,000** ton Frozen Fries
- **1,000** ton other Processed Food



**FROM FARM TO YOUR TABLE**

A row of sliced sweet potatoes with different colored interiors (yellow, purple, orange) on a white wooden plank. The background is a blurred green lawn. A single green leaf is visible on the right side of the plank.

# **CHANCE & RISK**



**K.K.ORCHARD**  
*Sweet Potato*



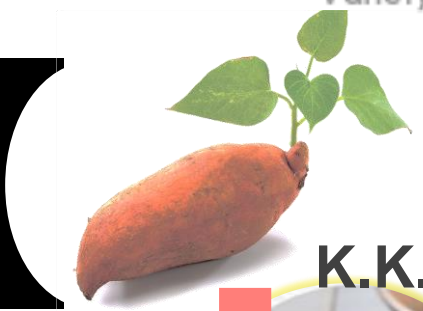
**More transparency in Supply Chain**



**Product diversification**



**Chance & Risk**



**K.K.ORCHARD ESG- Sweet potato circular economy**





# SDGS

for agri-business

Still Building Digital Supply Chain makes

- Various professionals enter agriculture
- Supply chain co-prosperity
- Maximize resource utilization

A wide-angle photograph of a lush green field, likely a crop field, stretching towards a line of trees and a forested hill under a clear blue sky. The plants in the foreground are dense and vibrant green. The text "Thank You" is overlaid in the center in a large, white, sans-serif font.

**Thank You**