

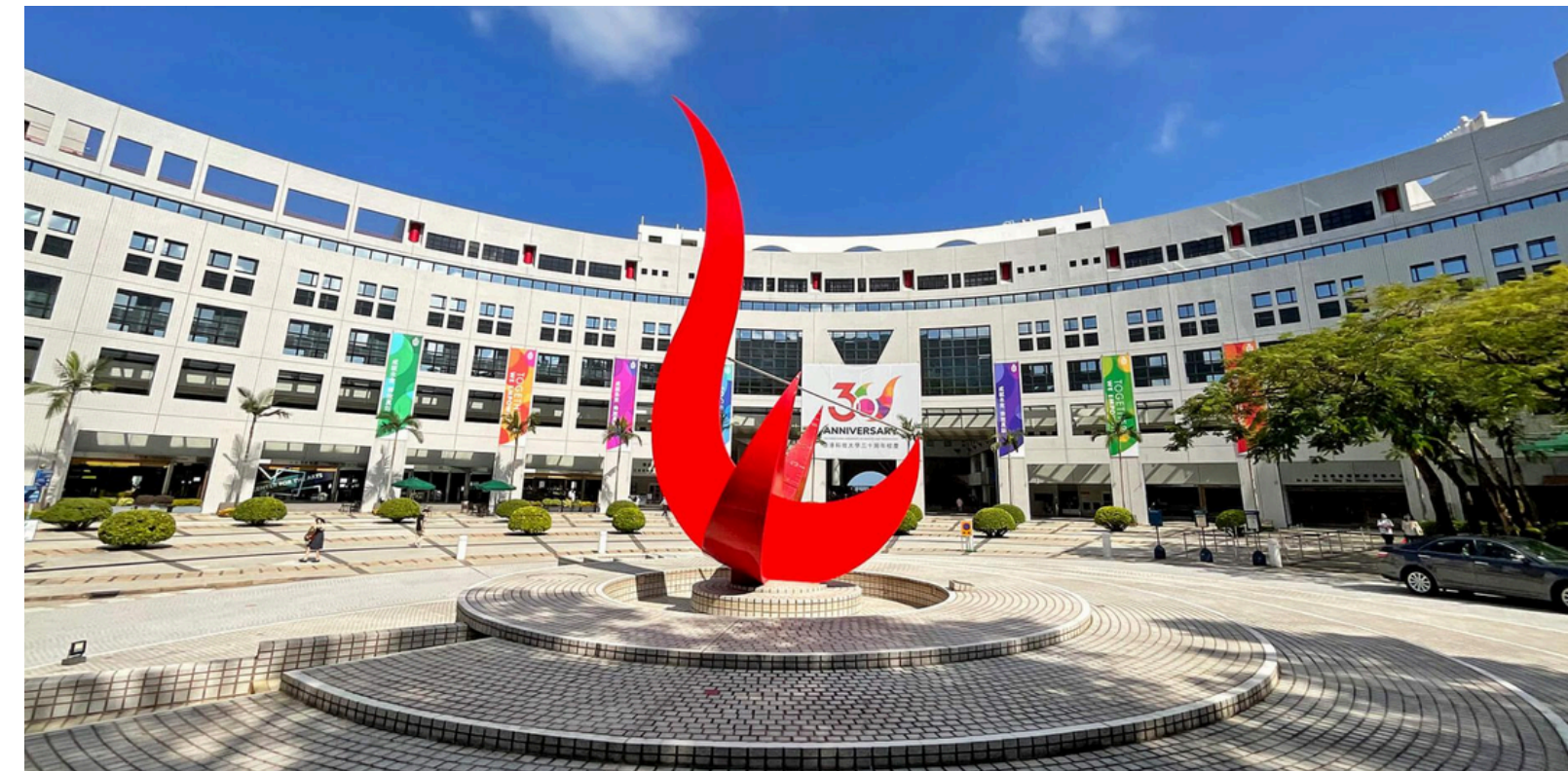


**Making Gardening and
Agriculture Management
more **Intelligent**, **Affordable**,
and **Sustainable****

Who are we

AURO was founded in 2024, based in Hong Kong. Our team was founded by scholars, alumni from The Hong Kong University of Science and Technology (HKUST) and industry partners. We are aiming to lead in environmental sustainability through the integration of spectral analysis, microfluidic, and intelligent irrigation technologies.

Our mission is to develop and commercialize biosensor and AI-driven solutions across various applications, including garden irrigation, soil analysis, and crop growth assessment.



Irrigation Automation Market Holds Significant Potential

Market Overview



Drip System

Timer

Hoses

Control System

Apply in



Family Gardening



Agricultural Irrigation

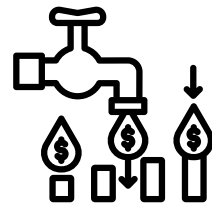
Benefits

Making irrigation **more convenient, more water-efficient, time-saving, and less dependent on human intervention.**

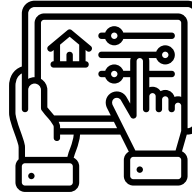
Growth Driver and Market Size



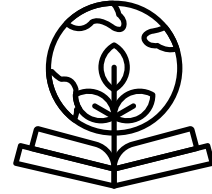
Popularity of Home Gardening



High Water Cost

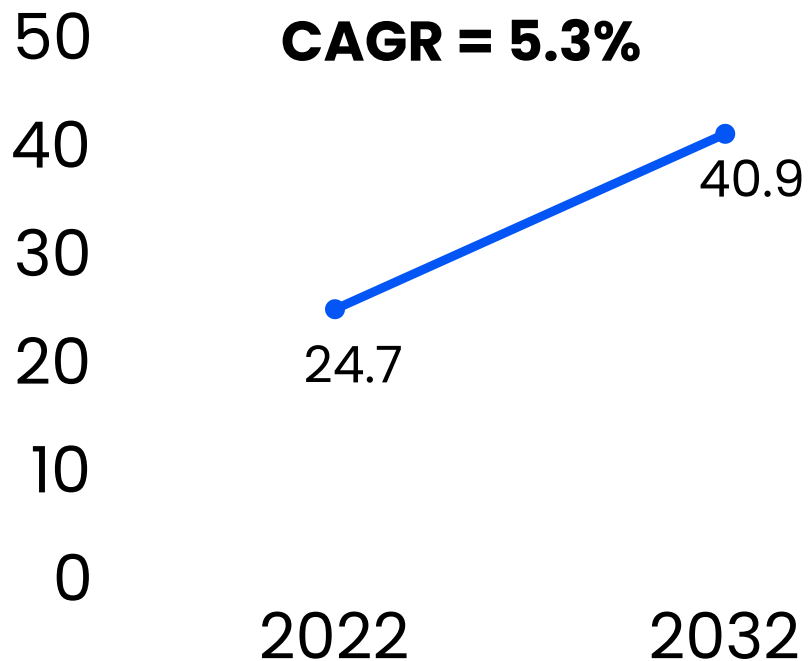


Integration into Smart Home System

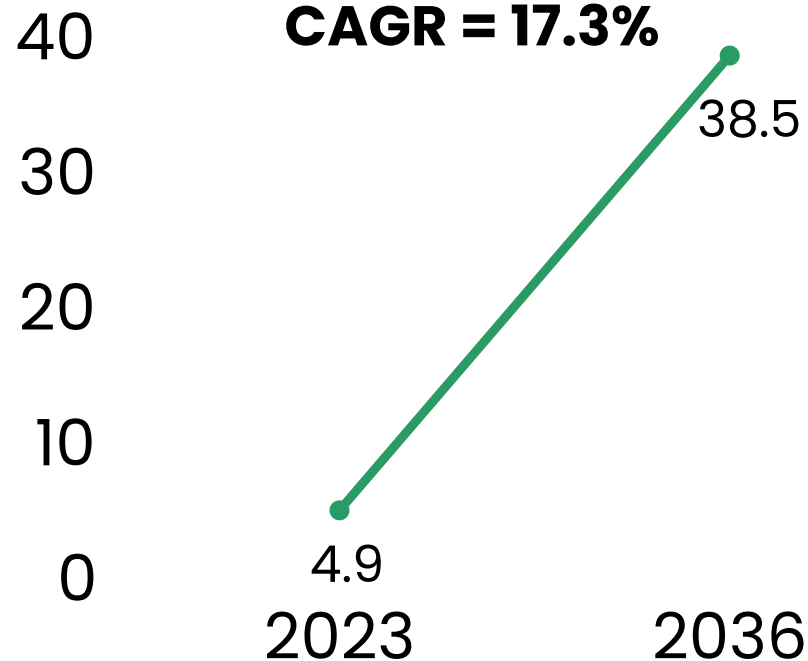


Increased Environmental Awareness

Global lawn and garden irrigation equipment market size (in USD Billion)*



Global irrigation automation market size (in USD Billion)*

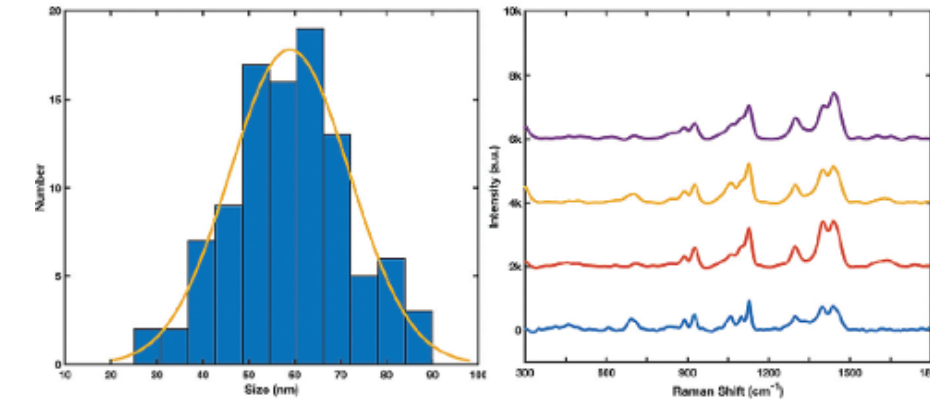
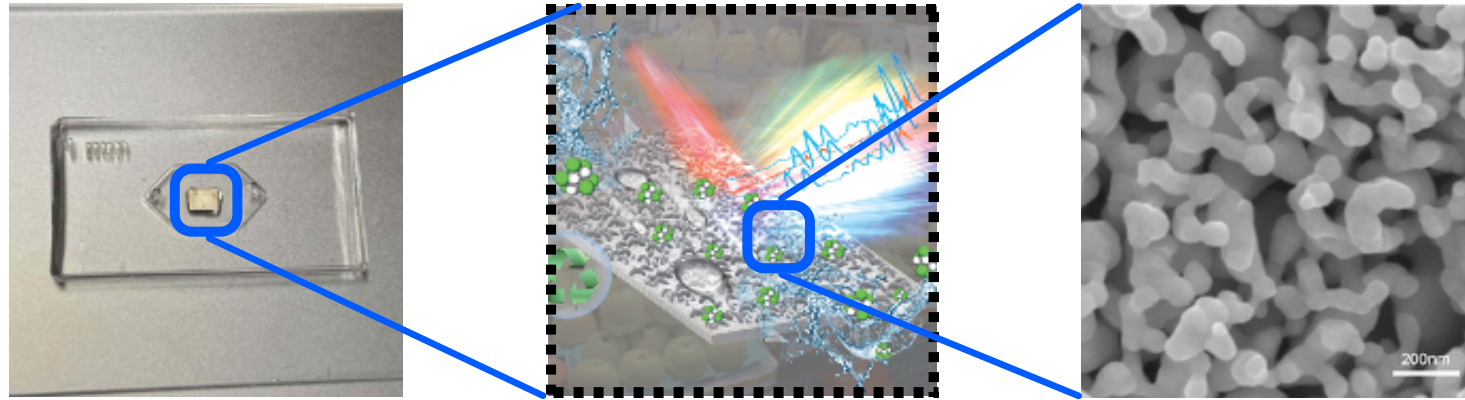


* According to data from Allied Market Research and Research Nester.

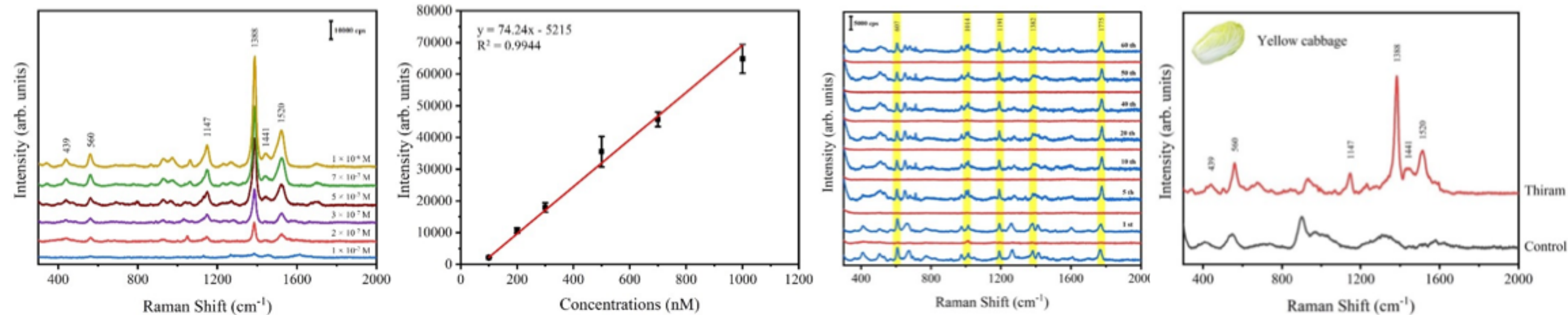
Our technology: application of substrate in spectral measurement

Our substrate for surface enhanced spectroscopy

Uniform structure and stable background signal



Application of the substrate for spectral measurement in agriculture field



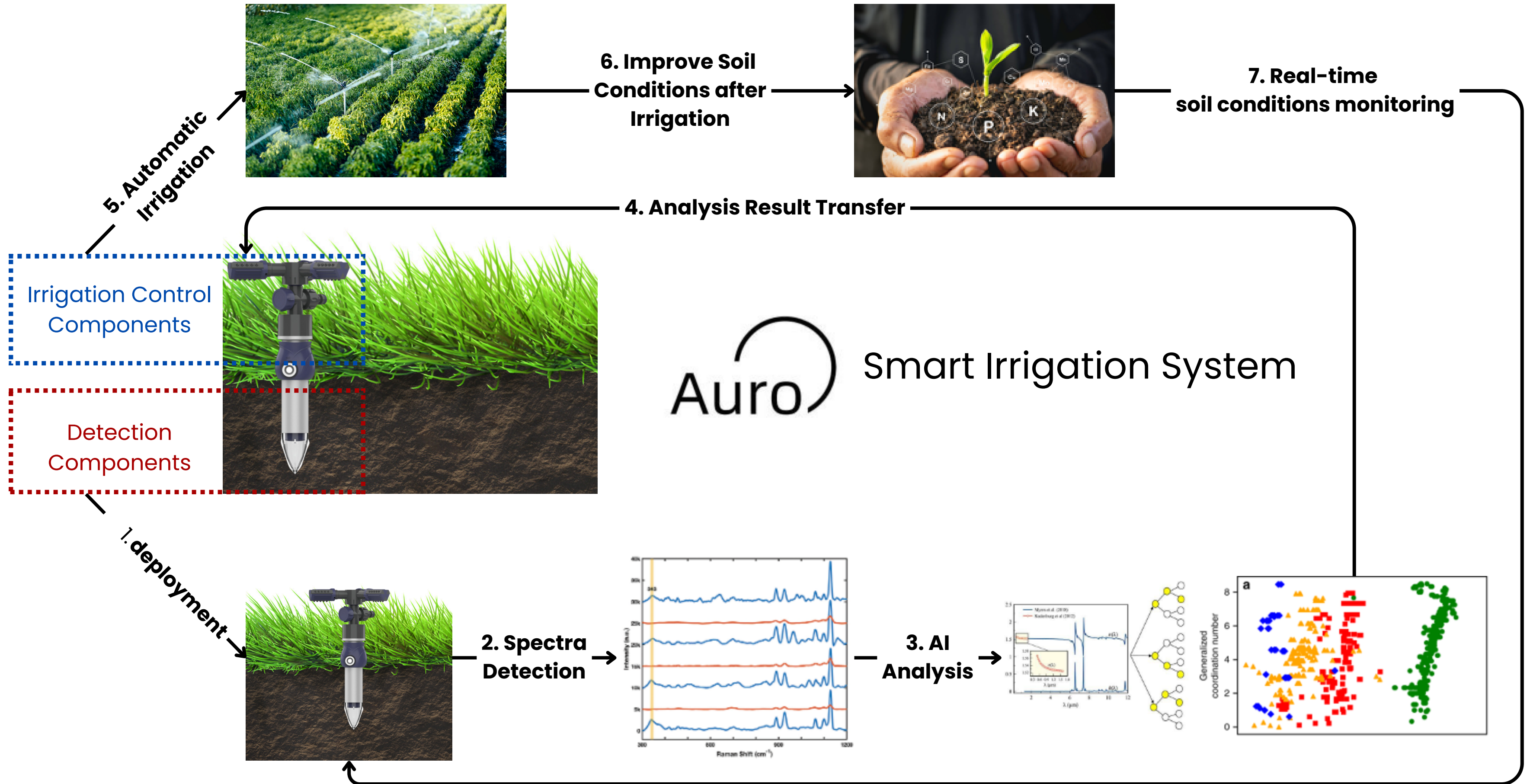
Patents:

1. SERS substrate preparation method based on nanoporous silver and SERS microfluidic chip. J Huang, W QIU. CN116990277A
2. Detection device for SERS microfluidic chip with multiple channels. H Zhu, J Huang. CN115096871B
3. Portable substance analysis based on computer vision, spectroscopy, and artificial intelligence. W Liu, R Zhao, H Li, J Huang. US Patent 10,664,716
4. Dual random phase optical encryption system without phase detection. Y Shi, J Zhang, T Li, Y Wang, Q Gao. CN201410654646.1

Research papers:






1. Chi, Huanyu, et al. "Highly reusable nanoporous silver sheet for sensitive SERS detection of pesticides." *Analyst* 145.15 (2020): 5158–5165.
2. Zhu, Hongni, et al. "Tunable lipid-coated nanoporous silver sheet for characterization of protein-membrane interactions by surface-enhanced Raman scattering (SERS)." *Analytical and Bioanalytical Chemistry* 415.16 (2023): 3243–3253.
3. Zhu, Hongni, et al. "Simple Preparation of Nanoporous Silver Sheets as Reusable SERS Substrates for Trace Analysis with Up to 60 Recycles." *ACS Applied Materials & Interfaces*, invited submission.

Our solution: Auro Smart Irrigation Solution

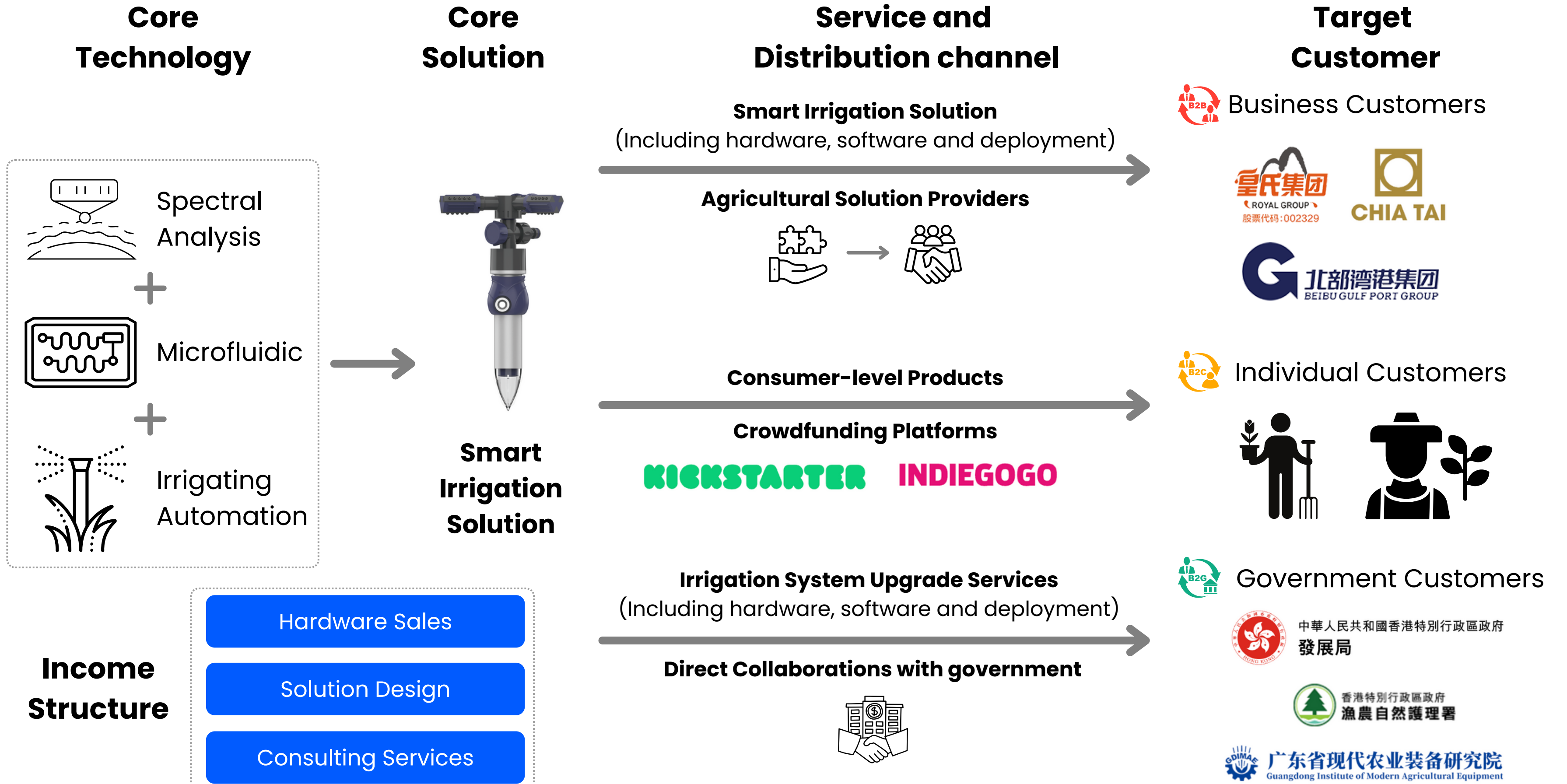


Product advantages

In comparison with mainstream irrigation solutions in market:

		Worse Performance	Comparable Performance	Better Performance	
		Manual Irrigation	Standard Control Valve	General Smart Control Valve	Next-Generation Smart Control
Example		Traditional Tools (kettles, pipes)	 	 	 (Our Solution)
Ranked in order of priority based on user functional needs, from highest to lowest	Environmental Monitoring	Not available	Not available	<ul style="list-style-type: none"> - Soil moisture - Rainfall - Weather 	<ul style="list-style-type: none"> - Soil moisture - Rainfall - Weather - Soil type - Soil composition - Pest and diseases
	Watering Effectiveness	Uncertain	General effectiveness	Good effectiveness	Excellent effectiveness
	AI Watering Algorithm	Not available	Not available	Intelligent watering decisions	Intelligent watering decisions
	Scheduling Function	Not available	Fixed	Flexible	Highly Flexible
	Water Consumption	Not quantifiable	High water consumption	Lower water consumption	Lowest water consumption
	System Control	Poor experience	Poor experience	Convenient experience	Smart control experience
Installation Complexity	Low	High	Medium	Low	

Business model



Our team



Chief Scientific Officer (PIC) Prof. Jinqing HUANG

Background

- PhD in Physical Chemistry, HKU
- Associate Professor, HKUST

Responsibility

- Development of spectral analysis method
- Development of surface enhanced substrate
- Lead scientific activities
- Design and decide research direction and plan



Chief Executive Officer Mr. Jun ZHANG

Background

- Master of Business Administration, Peking University
- Master in Optical Engineering, University of Chinese Academy of Sciences

Responsibility

- Company management
- Business development



Chief Technology Officer Dr. Xin DAI

Background

- PhD in Chemistry, HKUST
- More than 10 years experience in spectral analysis and portable device development

Responsibility

- Make research plan for product optimization
- Spectral detection improvement
- Substrate optimization



Research Officer Dr. Vince St. Dollente MESIAS

Background

- PhD in Chemistry, HKUST
- Postdoctoral Fellow, HKUST Chemistry

Responsibility

- Spectral measurement
- Spectral test and analysis



Director of Algorithm Development Ms. Xiaoming ZHU

Background

- Bachelor in Computer Science, University of Toronto
- Master of Business Administration, Peking University

Responsibility

- Development of AI algorithm



Marketing Manager Mr. Nan SUN

Background

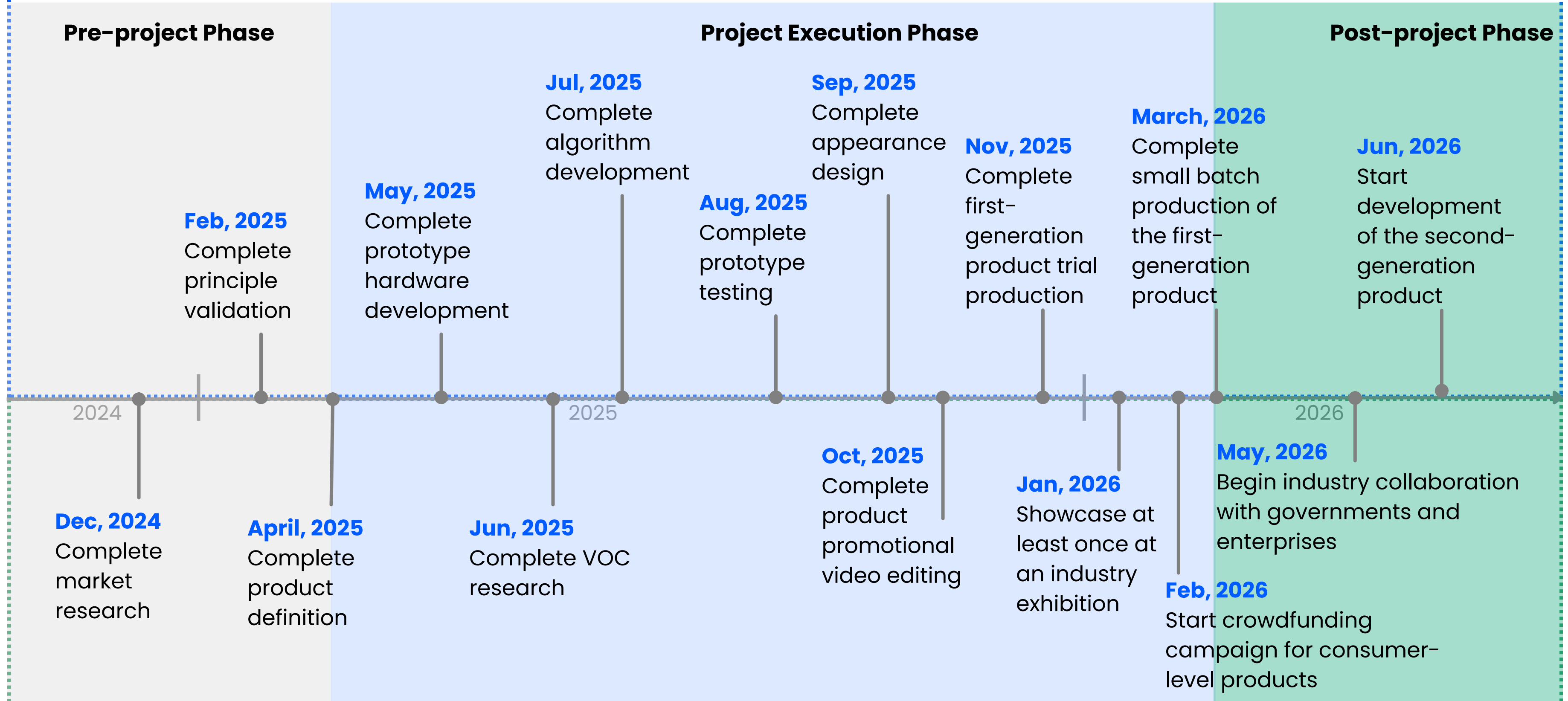
- Bachelor in International Economics and Trade, Nanjing University of Science and Technology
- More than 10 years experience in marketing management

Responsibility

- Marketing analysis
- Strategic planning




Plans for the next 2 years

Research and Product Development



Marketing

Business Canvas

<p>Key Partnerships </p> <ul style="list-style-type: none"> • Supply chain partners • Crowdfunding service providers • Malls and supermarkets channel providers • Smart hardware manufacturers 	<p>Key Activities </p> <ul style="list-style-type: none"> • Hardware sales • Agriculture data analysis • Smart griculture sustainable development research 	<p>Value Propositions </p> <p>ToC & ToB</p> <ul style="list-style-type: none"> • Save water costs • Save valuable time • Boost plant health and growth 	<p>Customer Relationships </p> <p>ToC & ToB</p> <ul style="list-style-type: none"> • Social media (Community operations) • Email Phone • Sales team <p>ToG</p> <ul style="list-style-type: none"> • Sales team 	<p>Customer Segments </p> <p>ToC</p> <ul style="list-style-type: none"> • Families with courtyards • Farmers <p>ToB</p> <ul style="list-style-type: none"> • Farmers, agricultural companies • Smart agricultural factories • Smart agricultural hardware companies <p>ToG</p> <ul style="list-style-type: none"> • Environmental protection departments • Municipal departments, • Government parks
<p>Cost Structure </p> <ul style="list-style-type: none"> • Manpower and R&D expenses • R&D hardware equipment procurement expenses • Marketing expenses 		<p>Revenue Streams </p> <ul style="list-style-type: none"> • Smart device sales • Smart agriculture construction solutions • Smart agriculture and sustainable development consulting service 		



Making Gardening and Agriculture Management more **Intelligent**, **Affordable**, and **Sustainable**

Feel Free to ask any questions!