METAFARMERS

METAFARMERS integrates artificial intelligence and robotics into smart farming systems, contributing to the advancement of sustainable agricultural practices.

METAFARMERS drives agricultural innovation through advanced technologies.

METAFARMERS

METAFARMERS
: a legacy of progress, a vision for tomorrow

HISTORY

2022

A spin-off from the Innovative Design and Integrated Manufacturing Lab, Department of Mechanical Engineering, Seoul National University

09 **Establishment of METAFARMERS Inc.**

2023

01 Selected for the NAVER D2SF Tech Startup Campus Program

11 Secured seed funding

2024

01 Certified as a venture enterprise

02 Established an automated strawberry vertical farm
Selected for the NVIDIA Inception Program

07 Selected as a First Penguin
by the Korea Credit Guarantee Fund (KODIT)

09 Received Minister's and NACF President's Awards
at the Agri-Food Startup Contest

11 Received the CES Innovation Award
(Food & AgTech category)

2025

02 Winner of the Smart Agriculture AI Competition
(Minister's Award)

03 Gold Winner in Smart Farming & Sustainability
at the Edison Awards

Meet METAFARMERS' emblem : the Blue Bee.

The Blue Bee, METAFARMERS' brand symbol, represents a tireless companion to farmers — a humble worker in nature, walking alongside people rather than ahead of them. It embodies our belief that technology should support humanity, not replace it.

CONTENTS

INTRODUCE

Amid growing labor shortages and an aging population, farmers are facing increasing burdens. Traditional methods, reliant on repetitive manual work, are approaching their limits.
METAFARMERS offers a practical solution to overcome these challenges. By harnessing AI and robotics, we transform how farming is done — **enabling farmers to focus on what truly matters**.

About

VISION

Building the future of agriculture with AI agricultural robots.

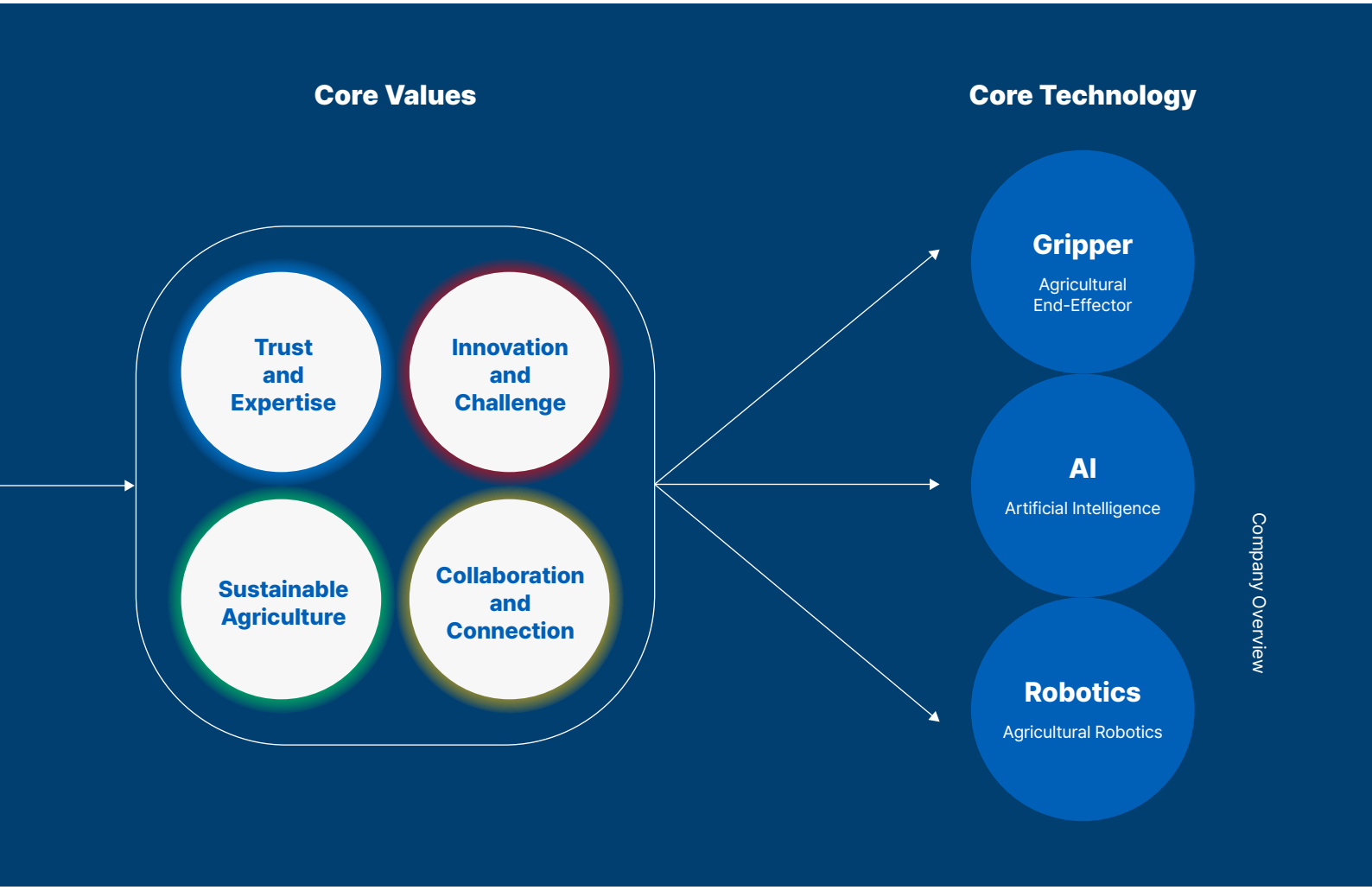
MISSION

We enable scalable farm task automation through AI and robotics, shaping a sustainable future for agriculture.

Our Partners

SNU공학컨설팅센터 ENGINEERING CONSULTING CENTER
농촌진흥청 국립농업과학원
KIRO 한국로봇융합연구원
KOAT 한국농업기술진흥원
NETGREEN
농촌진흥청 Rural Development Administration
ISU 이수화학
AGR 에이지로보틱스
ioCrops
KETI 한국전자기술연구원 Korea Electronics Technology Institute
PHYTO RESEARCH
VIA
UNIST ULSAN NATIONAL INSTITUTE OF SCIENCE AND TECHNOLOGY
NVIDIA
KIMM 한국기계연구원 KOREA INSTITUTE OF MACHINERY & MATERIALS
KITECH 한국생산기술연구원
농협

The automation of repetitive and skill-intensive agricultural tasks through artificial intelligence and robotics contributes to the advancement of sustainable farming practices.



Facility Overview

Facility Type : Automated Strawberry Vertical Farm

- **Size**
  : 112.2 m² (15 m × 8 m)
- **Crop**
  : Strawberry
- **Planting Density**
  : 5,080 plants

Location: Smart Farm Innovation Valley, Sangju (Greenhouse)

- **Size**
  : 478.5 m² (55 m × 12 m)
- **Crops**
  : Cherry Tomatoes, Cucumbers, Strawberries

Omni Farmer

Omni Farmer is an AI-powered, multi-functional agricultural robot equipped with crop-specific interchangeable grippers, designed to accommodate diverse crop types and task characteristics.

Vision Sensor

Crops are distinguished using an RGB-D sensor, from which data regarding size, ripeness, and pest or disease presence can be inferred.

Multi-functional Grippe

The gripper, precisely modeled after human hand movements, enables fast and accurate harvesting without damaging the crops. Its modular design allows flexible adaptation to various crops and environments, making it a scalable and versatile harvesting solution.

Mobile Base System

The mobile base system is engineered for high-performance mobility, featuring a durable design that ensures stability and precision. It travels along greenhouse rails with ease, maintaining smooth operation even in narrow passages and structurally complex environments.

Smart Loading System

The system includes a storage unit capable of holding approximately 15 kilograms of strawberries. It consists of seven tiers and automatically replaces trays during operation.

Let robots take on the repetition — and let farmers focus on what matters.

Gripper

Powered by AI-driven robotics, Omni Farmer automates the entire strawberry farming process — from harvesting and pollination to flower thinning, defoliation, sorting, and grading.

AI Training

Powered by an AI-based vision system, the robot assesses ripeness, avoids obstacles, and continuously improves its performance by learning from operational data.

- Crop detection and ripeness estimation
- 3D spatial abstraction
- Obstacle avoidance and path planning
- Vision-based robot control

Platform

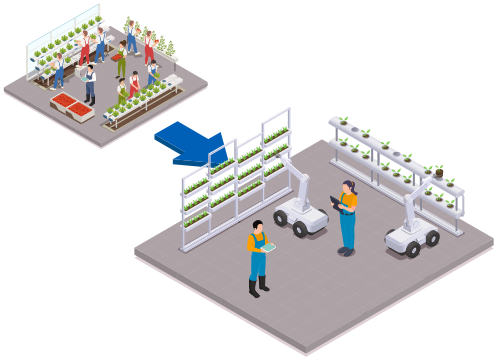
Designed as a universal platform for a wide range of fruits and vegetables—including strawberries, cucumbers, tomatoes, bell peppers, and apples—our system is deployable in both greenhouses and vertical farms, with future expansion planned for open-field environments.

Experience a live demonstration of Omni Farmer.

A synergy of autonomous robotics and skilled human oversight ensures seamless and efficient farm operations.

Smart Farming Robot-as-a-Service

Repetitive greenhouse work, now automated by METAFARMERS.



Relieve labor cost pressures with zero initial investment.

No need to purchase the robot — our subscription-based service lets you get started without budget concerns.

Automation beyond harvesting

A single robot handles a variety of repetitive tasks. With task modules that can be configured based on site requirements, it offers flexible and efficient field operation.

Data-Driven Farm Report

Our upcoming data-driven reporting service will provide insights into exact quantities, crop conditions, and early signs of abnormalities.

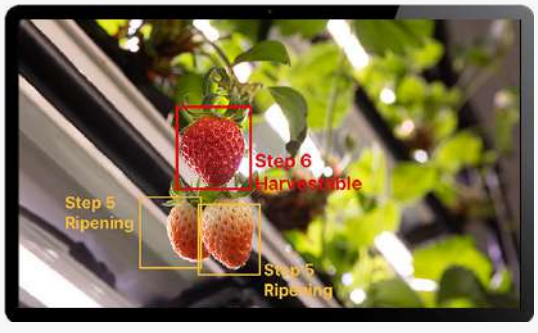
End-to-end field support to ensure seamless operation post-deployment.

We provide end-to-end support —from on-site installation and crop-specific setup to user training. In the event of any issues, remote diagnostics and rapid field response ensure reliable and worry-free operation.

Leave the repetitive tasks to us
— your farm deserves your full attention.

Beyond Automation

· Data-driven farm optimization
· Integrated reporting solutions
· All-in-one field automation



AI-Powered Crop Monitoring

We provide precise data to enhance field awareness and decision-making.

The AI Crop Monitoring Service leverages artificial intelligence to detect pests and diseases early, analyze crop health and growth patterns, and provide actionable reports to support informed decision-making.

Autonomous, Precision Monitoring for Large-Scale Farms

Data-Driven Crop Management for Higher Yield and Quality

AI-Based Analysis for Growth Monitoring and Pest Detection

Early Intervention to Minimize Epidemic Risk


[Line 9]
Weekly Harvest Output
: 10 units
Expected Harvest Output
: 15 units
Required Task
- Thinning
[Line 10]
Weekly Harvest Output
: 9 units
Expected Harvest Output
: 15 units
Required Task
- Runner Removal
[Line 11]
Weekly Harvest Output
: 10 units
Expected Harvest Output
: 8 units
Required Task
- Runner Removal
AI 예찰

Smart Farming as a Service

A smart farming service where AI-powered robots and skilled professionals work in tandem, establishing a new standard for collaborative agriculture.

Scope of Services

Harvesting

Artificial Pollination

Thinning

Crop Monitoring (AI-Based)

Thinning

Upcoming Services

Flower Removal

Upcoming Services

Sorting & Grading

Upcoming Services

Deployment

Supported Crops

Strawberry

Cucumber

Upcoming Services

Apple

Upcoming Services

Tomato

Upcoming Services

Bell Pepper

Upcoming Services

Applicable Environments

Vertical Farms

Greenhouses
(With or without pipe rail systems)

A scalable, AI-powered subscription service adaptable to diverse crops and growing environments.

Experience the innovation of Omni Farmer—without any additional infrastructure.

Deployment Process

Step 1

Pre -deployment Visit

We coordinate with your team to schedule a field visit for evaluating deployment conditions.

Step 2

AI Model Adaptation Period

During the initial deployment, farm operations are supported via remote control to allow the robot to adapt to the environment and facilitate AI model learning.

Step 3

Operational Deployment

Once the AI model has been trained, the robot can be remotely operated and its task progress monitored via software.

Showroom

Experience the future of agriculture in our showroom. Witness our robots performing harvesting and pollination tasks in a fully automated vertical strawberry farm.

Location

Unit B-202,
Dongtan Kumkang Penterium IX Tower,
283-1 Yeongcheon-dong,
Hwaseong-si, Gyeonggi-do, Korea

Contact

+82-10-6641-7910
comtact@metafarmers.ai

QnA

Q. Is the robot configurable to align with our system's specifications?

A. Yes. Omni Farmer is built as a flexible platform, capable of adapting to various crop types and facility configurations. During initial deployment, our field engineers provide site-specific calibration and customization to ensure seamless integration with your existing operations.

Q. What happens if the robot malfunctions?

A. We provide both remote diagnostics and rapid on-site support. Our system enables quick troubleshooting remotely, and when necessary, our engineers are dispatched promptly to resolve issues on-site.

Q. Do we need to purchase the robot? The upfront cost is a concern.

A. No purchase required. Through our Smart Farming-as-a-Service model, you can get started without large capital investment. We offer a subscription-based solution that includes both robots and expert operators.

Q. Can the robot be used for other crops, including open-field farming?

A. Our AI models can be retrained for different crops, making the system highly versatile. Currently optimized for greenhouse-grown fruits and vegetables, we're actively developing an outdoor platform to extend our solution to large-scale open-field farms in the near future.

Metafarmers Inc.

A. Unit 302, Cheongdong Building, 1922 Nambusunhwan-ro, Gwanak-gu, Seoul, Republic of Korea

T. +82-10-6641-7910

E. contact@metafarmers.ai

metafarmers.ai