Robotic Systems for Greenhouses

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Labor Shortage a Global Problem

Labor = 30% to 50% of total greenhouse production costs
Multipurpose Robotic System

Performing labor-intensive tasks

- Harvesting
- Pruning
- Monitoring
- Pollination
- De-leafing

50% reduction in labor costs with MetoMotion
GRoW – Greenhouse Robotic Worker
3D Vision System

- Left image
- Ripe fruit detection
- Right image
Proprietary End-Effector

- Locates stem without need for exact data
- Cuts and catches in single operation
- Clears away obstacles
- No damage to plant or fruit
- Pending patent

Solves a complex problem in a smart, simple, and effective manner
Generating Data While Harvesting

Automated reports

Yield distribution

Improved control

Stress detection

Yield forecasts

Automated work plans

Crop Yield Statistics

AREA [M^2]

KG

0.00 5000.00 10000.00

100 500 900 1300 1700 2100 2500 2900 3300 3700 4100 4500 4900

yield (this harvest)

this harvest total

yield (cumulative)
Greenhouse Market

Global greenhouse area: 1.14 million acres

- Asia: 49%
- Europe: 38%
- Africa: 8%
- North America: 2%
- South America: 3%

Hi-tech greenhouses: 10% of global area
First Target Market: Tomatoes in Hi-Tech Greenhouses

Tomatoes = 35% of hi-tech greenhouses

16,000 robots

>$1 billion potential
GRoW - Expansive Opportunity

1\textsuperscript{st} Target:
Hi-tech tomato greenhouses

Non hi-tech greenhouses  Additional tasks  Additional crops
Company Milestones

2017
• POC in lab + greenhouse

2018
• Alpha field testing

2019
• Beta pilots
• First sales

2020
New application first sales

$720K

$2.5M

$2.5M
Funding

• Currently raising $1.5 million
• Additional $1 million funding from non-dilutive government funds

Use of funds

1. Complete R&D (50%)
2. Greenhouse trials (20%)
3. Complete commercial version design (30%)

Investors

DRIVE

trendlines

medical • agtech • labs

רשות התעשייה

Israel Innovation Authority
Automated from Plant to Box

Thank You

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