



GrowLights

Grow smart. Grow more.



Institute for Engineering Leadership
College of Design and Engineering

GrowLights is a technology partner that solves high electricity consumption, high manpower costs, and low crop yield for current indoor farms by providing an AI-driven energy-efficient LED lighting solution.

Problem

68 Interviews done

High Price of LED Lighting

High Electricity Consumption

High Manpower Costs

Lighting & Electricity expenses make indoor farms NON-profitable

“Your pockets will eventually run dry if you don’t produce enough.”

“AI and autonomous applications could change the destiny of indoor farming.”

Need to Reduce Costs

Need to Maximize Yield

Competitors

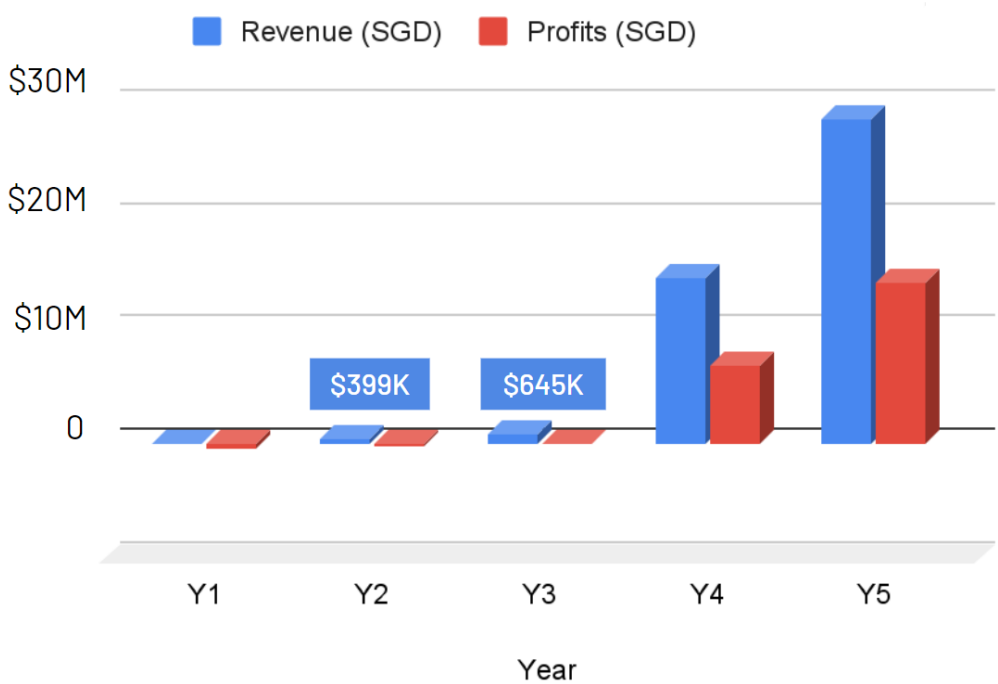
Brands	Price*	Power Consumption	Adjustable Range	Automation
GrowLights	SGD 350	< 5W	High	Yes
ARIANETECH Build your dream farm	SGD 1691	32W	Medium	No
Eco-Light EFFICIENT · INNOVATIVE · SUSTAINABLE	SGD 363	12W	Low	No
PHILIPS	SGD 543.78	70-79W	High	No
OSRAM	SGD 526	650W	High	No
Horticulture Lighting Group	SGD 416	40-240W	High	No

*Price is calculated based on number of panels to achieve the same PPFD

Go to Market

Formation → Presales in launch market → Expansion beyond →				
Year 1	Year 2	Year 3	Year 4	Year 5
Market validation; Product R&D	Sell to 5 SG farms 1,125 panels approx.	Sell to 8 SG farms 1,800 panels approx.	Sell to 7 SG farms, 2 China farms, 2 Japan farms 41,575 panels approx.	Sell to 7 SG farms, 4 China farms, 4 Japan farms 81,575 panels approx.

Five-Year Projection



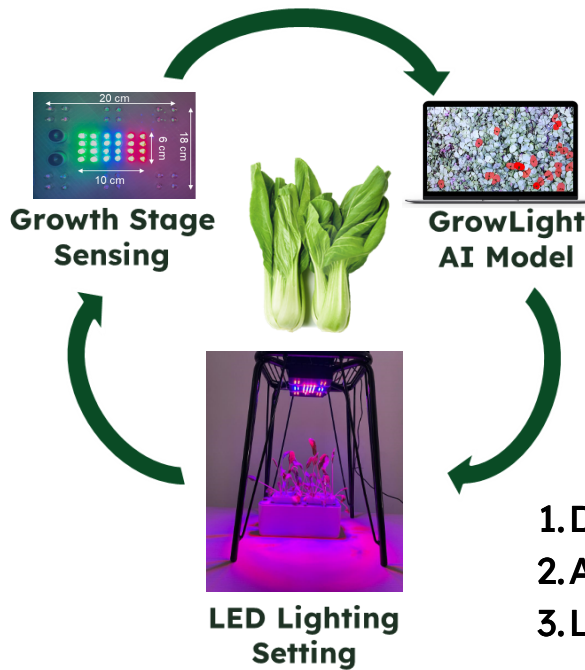
Gross Profit Margin 57%

Total Revenue Y5 S\$29M

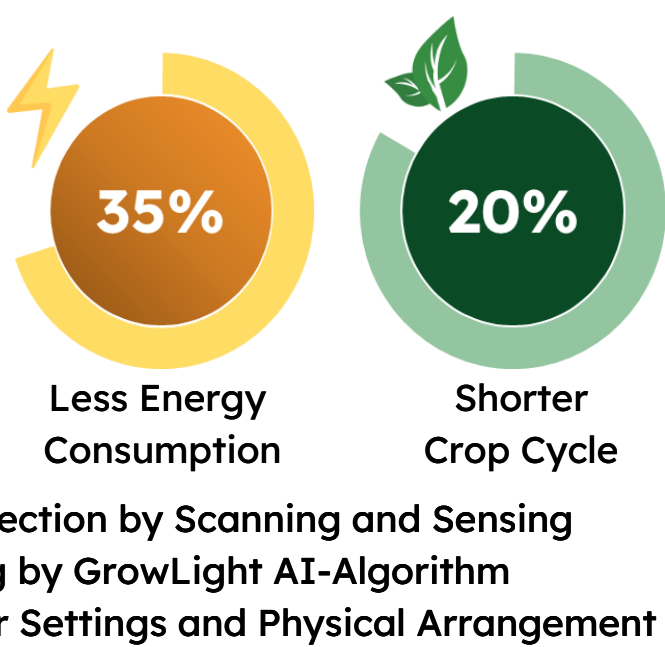
Profits in Year-5 S\$14M

Product & Solution

Grow Smart



Grow More



Market Size



Global CAGR	APAC CAGR	Singapore
25.5 %	33.4 %	
Revenue Forecast \$ 9.66 Bn	Revenue Forecast \$ 1.5Bn	Revenue Forecast \$ 9.5 M

Data taken from Frost&Sullivan

Business Model

Direct Unit Sales

SGD 350

Software Subscription

- AI-optimisation software
- Customized reports

Small farms: S\$ 99/month
Large farms: S\$ 499/month

Market Strategy

- WWW Company Webpage
- SOCIAL MEDIA Social Media
- SALES Sales

Distribution Channels

- E-Commerce ONLINE SHOPPING
- Solution Provider
- Logistic Partners

Team & Advisors

Khoo Eng Huat
CTO

Andrei Kulish,
CEO

Paul Singh Gill

Roger Cheong

Co-founders

Business Advisor

Student Choice Award – First place for 5 weeks in a row

Chen Xiayi
MSc Built Environment

M. Furkan Ilaslan
PhD Electrical & Computer Engineering

Marisa Lim
MSc Management of Technology and Innovation

Molin Cao
MSc Materials Science Engineering

Lan Yingchao
MSc Materials Science Engineering

Liu Zhepei
BEng Industrial Systems Engineering

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