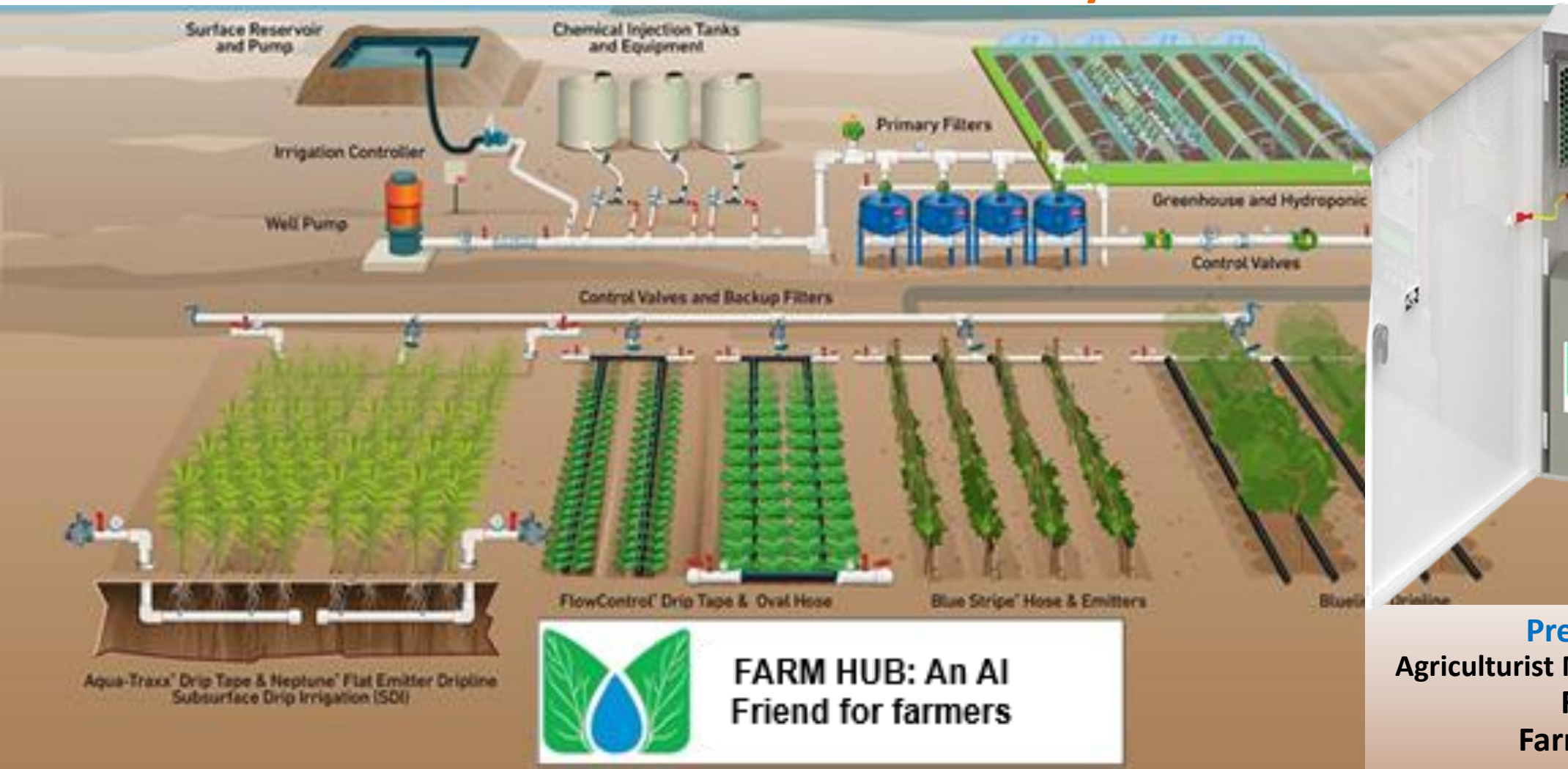
# FARM-HUB: An AI Friend for farmers

## Revolutionizing Turkish Agriculture with Affordable Precision IoT and AI for Every Turkish Farmer







**Presented By**

**Agriculturist Md. MAMUNUR REZA**

**Founder**

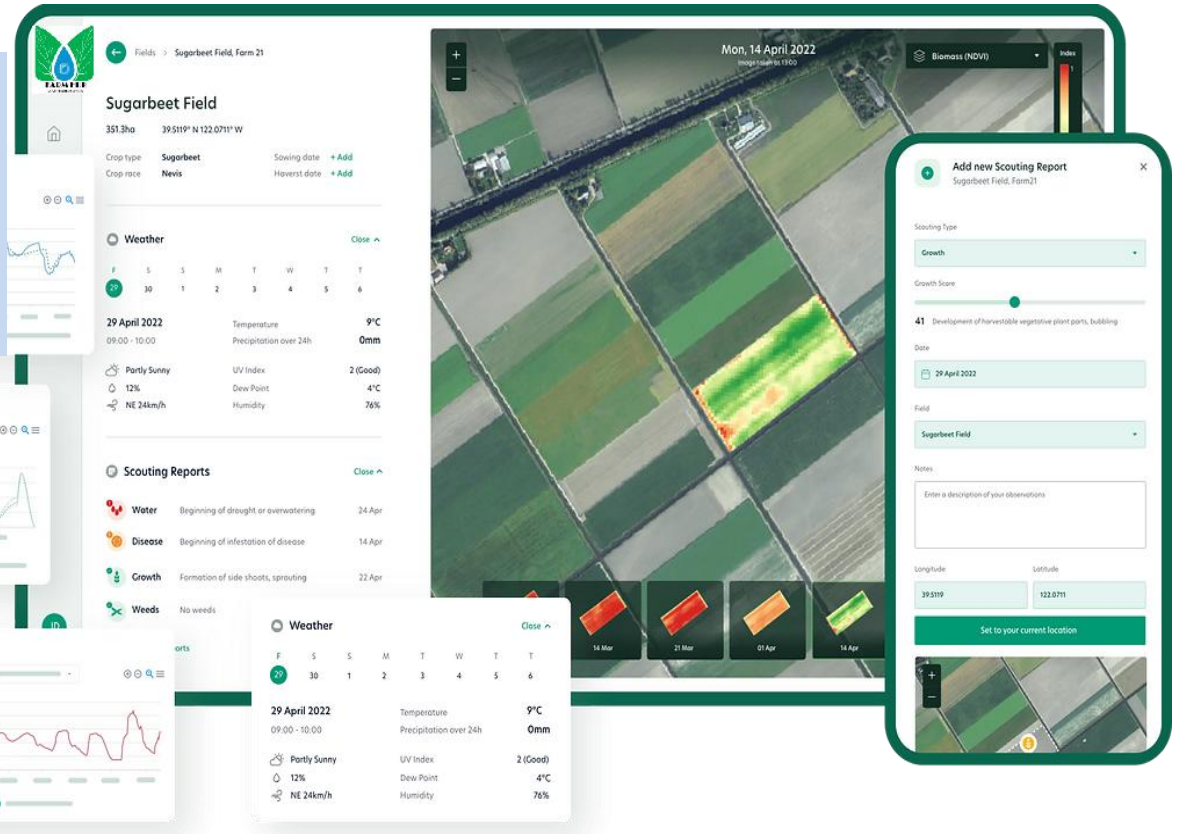
**Farm-Hub Ltd.**

# Project Introduction (Proje Tanıtımı)

## -OVERVIEW

Introducing **Farm-Hub**, an IoT-based AI solution revolutionizing Turkish agriculture. This modular system allows farmers **remote control of irrigation and farm devices**, compatible with all major **sensors** (soil moisture, EC, pH, temp, NPK, etc.) and **Protocol Agents** from a single Dashboard.

Our core functions include cloud-based AI Fertigation (drip & sprinkler), connect external devices, and remote farm management that transforming farming to be more efficient and sustainable.




## VISION

"To provide every Turkish farmer with affordable, advanced IoT-based precision agriculture."

# Our Team (Ekibimiz)

**– Multidisciplinary Strength**




**MD MAMUNUR REZA**
PhD Researcher
(IoT based Fertigation Management)
Atatürk University

**Formerly Founder of**
Drip Irrigation BD Ltd. (Bangladesh)
& Krishain Ltd. (BD + South Korea)



**M. Ali Dincer**
Software engineer
LLM, Node js, AI
Atatürk University

**IoT, Data management and Back-end developer**



**Tahera**
LLB, LLM
•Working on intellectual property

**IP Advocate**



**Md. Riaj uddin**
- BSc in **Agriculture**, MS In Agroforestry
- 15 year of experience in agricultural technology

**Agriculturist**

YOUTH TECH BEGIN

# Our Consultants (Danışmanlarımız)

**– Academic & Industry-Driven Mentorship**



**Prof. Dr. Ertan YILDIRIM**
Department of Horticulture
Atatürk University, Turkey
(Plant Stress and productivity Management)



**Dr. Tolga Turay**
Department of EEE
Atatürk University, Turkey
(Digital twins Management)



**Dr. Momin Momin**
Department of Fisheries
Atatürk University, Turkey
(Fish and plant ecosystem Management)

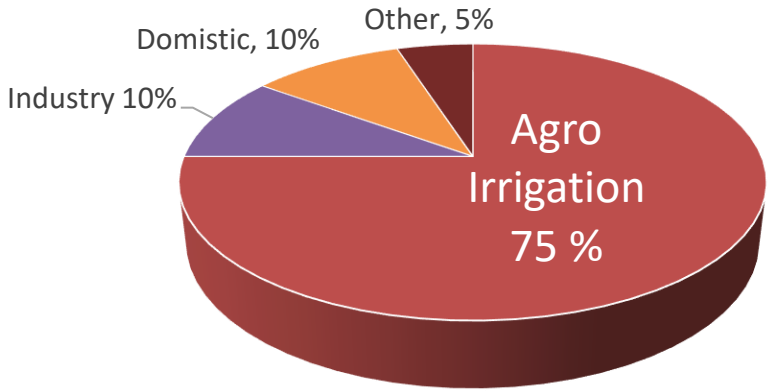


**Professor Dr.**
**Shaikh Abdullah**
**Al Mamun Hossain**
**Department of Agricultural Engineering, Patuakhali Science and Technology University**

# The Problem (Sorun)

**– Turkey's Agricultural Crisis**

## Water Use sector in Turkey




**Agricultural Water Consumption:**
**73-77%** of Turkey's total water is consumed by **Irrigation** (DSİ).



**Irrigation Inefficiency:**
Present efficiency max. 50.4%.
Government Targets: 60% by 2030

**50% irrigation water wasting**

**Economic Strain on Farmers:** High labor and fertilizer costs significantly reduce yield and profitability




Farmer loosing **25 to 50 %** fruits and vegetable production/year for Manual farm management







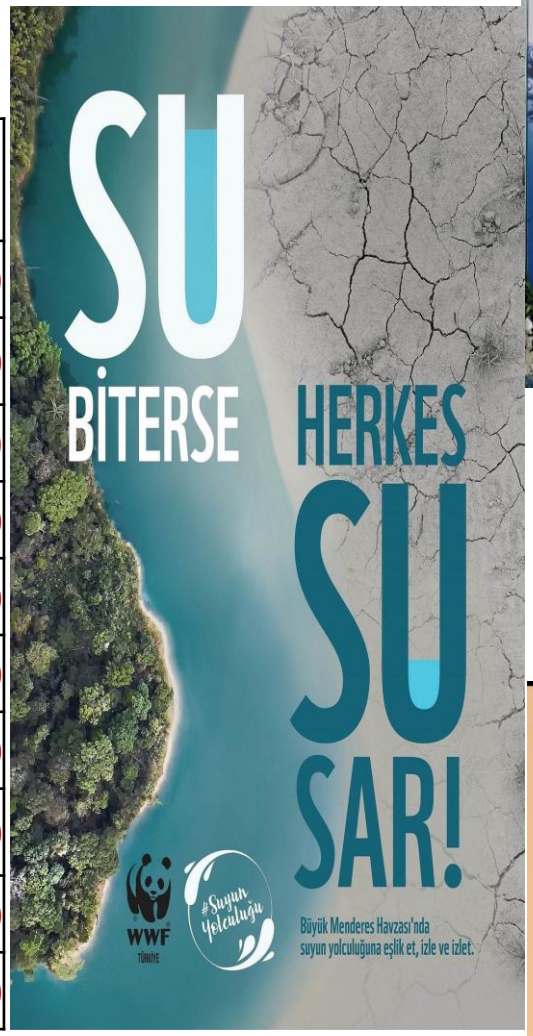
FARM HUB
An AI Friend for Farmers

# Scale of the Problem (Sorunun Ölçeği)

## – A Major National Crisis

### Water Footprint of Turkish Crops: need L/kg

| Crop/Fruit (with Turkish Name) | | Now at Efficient Irrigation (L/kg) | Traditional Irrigation (L/kg) |
|---|---|---|---|
| | Almond (Badem) | ~14,000 – 16,000 | ~18,000 – 22,000 |
| | Pistachio (Antep fıstığı) | ~13,000 – 15,000 | ~17,000 – 20,000 |
| | Olive (Zeytin) | ~10,000 – 14,000 | ~13,000 – 18,000 |
| | Cotton (Pamuk) | ~8,000 – 10,000 | ~11,000 – 14,000 |
| | Rice (Pirinç) | ~2,500 – 3,500 | ~3,500 – 4,500 |
| | Maize / Corn (Mısır) | ~1,000 – 1,400 | ~1,600 – 2,200 |
| | Cherry (Kiraz) | ~1,000 – 1,300 | ~1,600 – 2,200 |
| | Sugar Beet (Şeker pancarı) | ~900 – 1,300 | ~1,500 – 2,000 |
| | Grapes (Üzüm) | ~900 – 1,200 | ~1,500 – 2,000 |
| | Apple (Elma) | ~700 – 900 | ~1,200 – 1,600 |



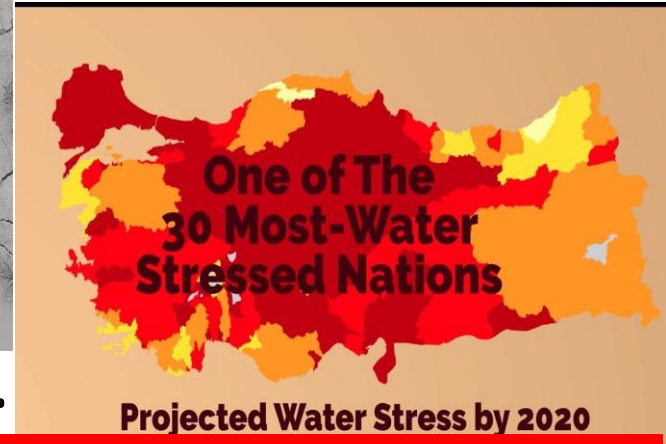







YOUTH TECH BEGIN

**Turkey to be classified as highly water-stressed country by 2030, minister says** _Friday November 17 2023




**Moreover, labour costs in fruit farming exceed 30% of total production.**

**So urgent need for tech adoption in both open-field and greenhouse settings to save natural resources like water.**

# Our Solution (Çözümümüz)

– Smart Farm Hub

## FARM HUB: An AI Friend for farmers



**Save up to 70% water and 50% fertilizer**

Easy as Touch to manage




**Reduce cost up to 50%**




**Save time 50%**







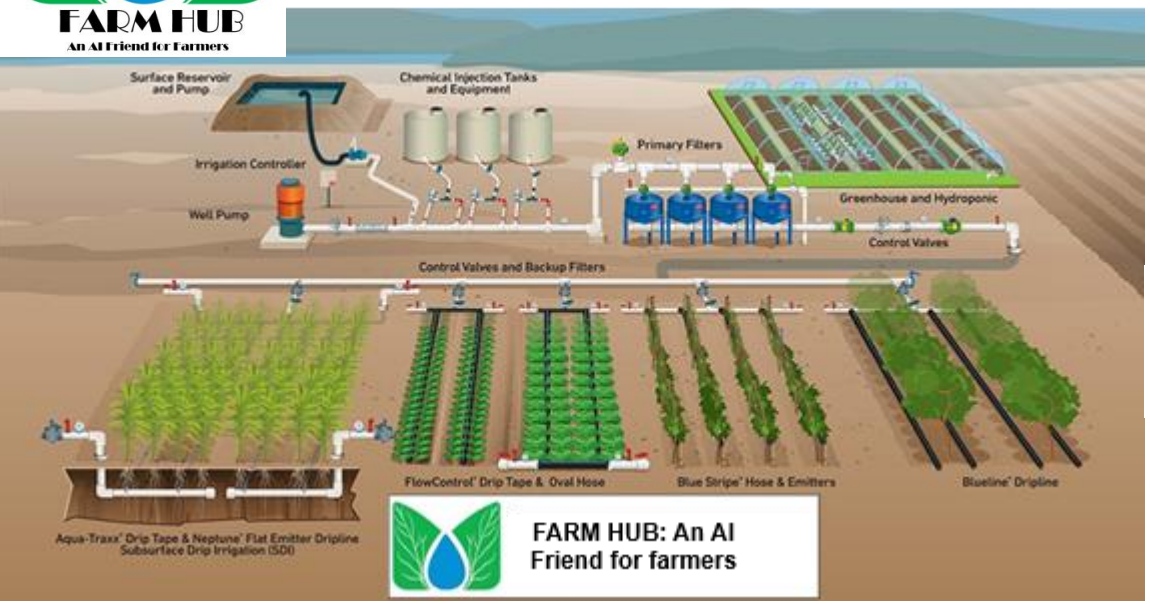
**Yield increase 20-25%**

**Digital Farm Management (Single dashboard)**

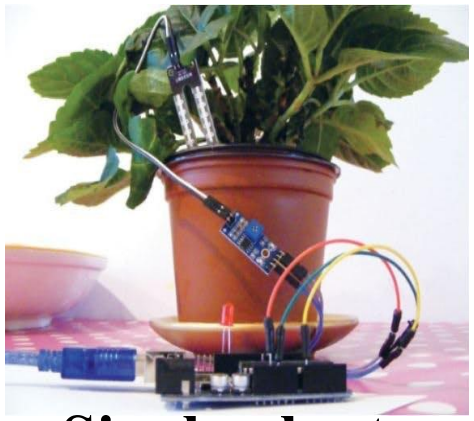
# Our Solution (Çözümümüz)

–Product architecture overview

Let's grab the market with a Patentable device



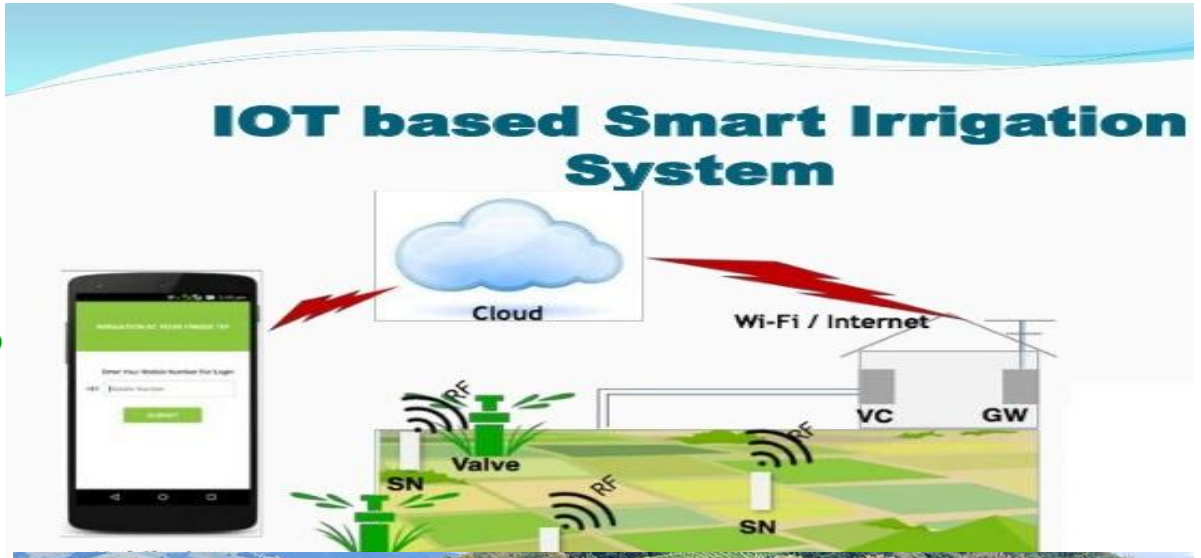

FARM HUB Controlled Field



Single plant

One hub, limitless sensors, total control

Scalability





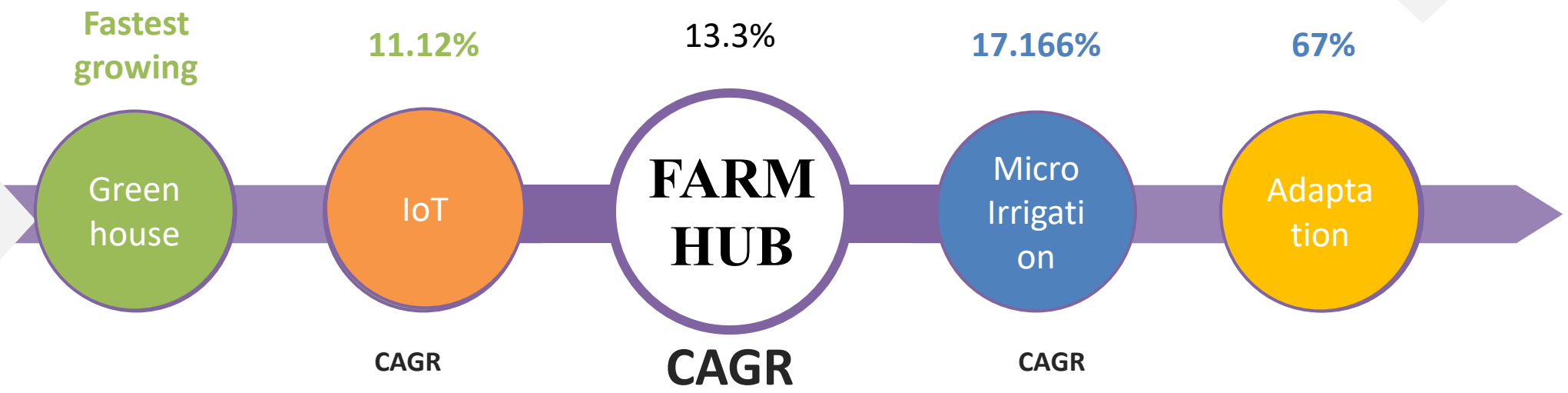

Large scale Farms in any area

# Market Analysis (Pazar Analizi)

**– A Fertile Ground**

4M+ Turkish farms; 67% potential adoption in drip/smart fertigation.

Smart greenhouse is Turkey's fastest-growing segment.




IoT Agriculture Global: $28.65B (2024) → $60.12B (2032), CAGR: 11.12%

**Turkey Smart Agriculture market: $101.4M (2023) → $237.4M (2030), CAGR: 13.3% (GrandView)**

MEA Micro-Irrigation Market: $0.76B (2024) → $3.16B (2033), CAGR: 17.166%

# Competitor Analysis (Rakip Analizi)

**– Standing Out in a Growing Market**

| Company | Strengths | Weaknesses | Farm Hub Advantage |
|---|---|---|---|
| Netafim | Premium hardware & carbon credits | Expensive, proprietary ecosystem | Sensor-agnostic, cloud-based & affordable |
| IRRIOT | Wireless, solar precision | Narrow device control range | Full device ecosystem integration |
| Gardyn | High indoor yields, automation | Indoor only, costly | Open-field + greenhouse + hydroponics |
| Blynk Pro like platform | App + Cloud | High monthly cost, complex management | Minimum monthly fees, white-labeled apps |

# Financial Projections (Finansal Projeksiyonlar)

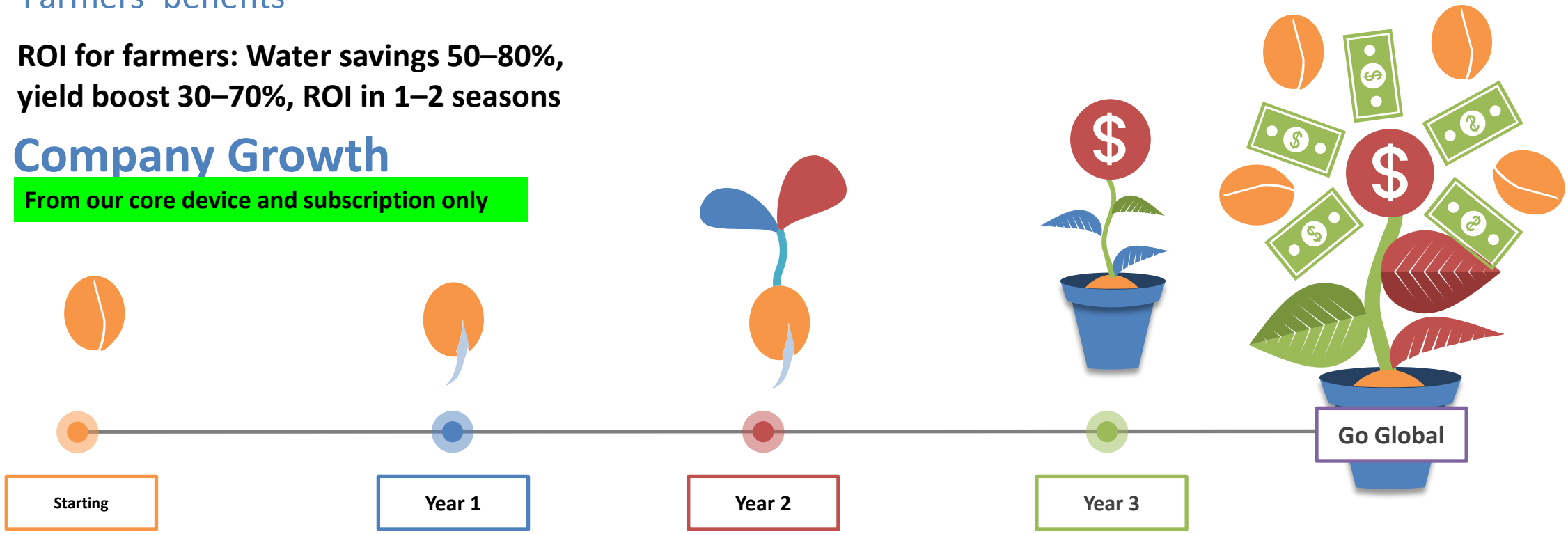
– Sustainable and Profitable

## Farmers' benefits

**ROI for farmers: Water savings 50–80%, yield boost 30–70%, ROI in 1–2 seasons**

## Company Growth

**From our core device and subscription only**




**R&D with Prototyping**

**500 units × ₺20,000 = ₺10M; SaaS revenue = ₺500K**

**2,000 units × ₺20,000 = ₺40M; SaaS = ₺3000K**

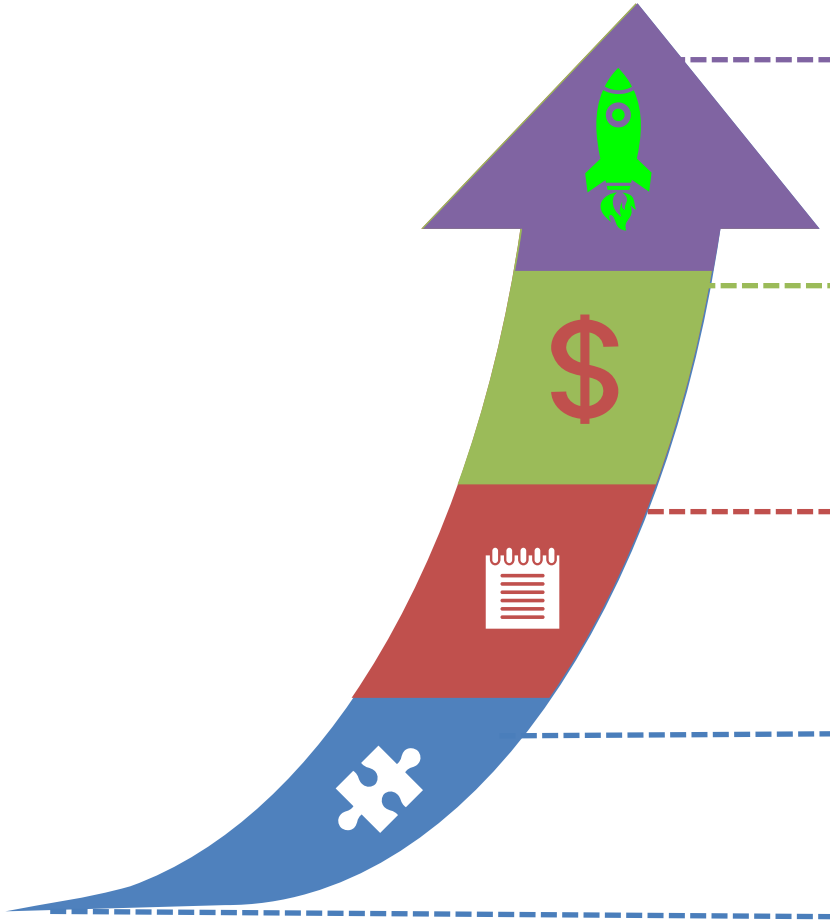
**5,000 units= ₺100M; SaaS = ₺10M/year recurring**

**Be local leader and go global**

**SaaS price: ₺200-₺2000/month depending on modules**

# Project Timeline (Proje Zaman Çizelgesi)

– From Vision to Reality



2-3 Year

**Scaling & Licensing**
**20 regions in Turkey, local manufacturing**

10-12 Month

**Commercial Launch**
**1st 500 units; onboarding support**

7-9 Month

**Field Testing**
**5 pilot farms (open & hydroponics)**

4-6 Month

**Prototyping**
**MVP device + web/mobile dashboard**

0-3 Month

**R&D & Design**
**Core architecture, sensor compatibility**

# Why Karınca Kuluçka Center? (Neden Karınca Kuluçka Merkezi?)

**– Youth-led Tech for National Impact**

**Perfect fit for the YOUTH TECH BEGIN Program, addressing real-world agricultural challenges using AI, IoT, and cloud computing.**

**Proven market need, Turkish-first focus, global scalability.**

**Proven Mentoring**

**Affordable, practical, and empowers rural entrepreneurship.**

Aligns with SDGs: water efficiency, climate resilience, rural income growth.



# Thank you

**Digitize Turkish agriculture, drop by drop, sensor by sensor.**

**Let’s cultivate the future, not just the fields.**

Email: rezamm.bd@gmail.com
Phone: **+905541492515**