

A smarter way forward for farming

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# Biodegradable IoT Sensors for Agriculture

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# 70%

**Of global freshwater withdrawals are accounted for by agriculture (2 quadrillion gallons annually)**

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# 40%

**Of water used in agriculture is wasted due to poor irrigation systems and evaporation**

# Biodegradable IoT Soil Sensors

Smaller than pennies

Scattered in fields to monitor moisture levels at different points

Send information to swarms of drones



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# 25%+

**Reduction in annual water usage**

# The Business Case

**\$1.1 trillion  
agriculture industry  
in the US**

**2.02 million farms in  
the US**

# The Competition

\$690

HOBOnet Multi-Depth Soil Moisture Sensor



\$159

Onset Soil Moisture Sensor



\$750

CropX Sensor Probe



\$99.95

Lawn & Tractor Co. Smart Plant Monitor





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# < \$1 USD

**The cost of our biodegradable sensors**

# The Business Plan

Client Farmers  
expected to have a  
return on investment  
in <5 years

Initially target  
farmers in states like  
California with higher  
water prices

# Financials

**\$120,000**  
revenue first year  
with 10 farms  
serviced

**\$500,000**  
revenue second  
year with 50 farms  
serviced

**\$700,000**  
revenue third year  
with 100 farms  
serviced

# Long-term Outcomes

Steady business  
revenue stream

Farmers  
incentivized to  
purchase new  
sensors each  
growing season

Water wastage  
reduced as  
adoption grows  
across the US and  
the world

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# Appendix

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# Financials

- My financial calculations are based on an average farm size of 500 acres
  - Average water costs in the US are \$32 per acre during the growing season, giving a total of \$16000
  - The initial cost to setup the drones and visualization software is estimated to be \$10,000 based on existing technologies
  - Using sensors can reduce costs by \$4000, or 25%, per growing season
  - 500 sensors are needed for 500 acres and given that we sell them for \$4 each, farmers will be spending \$2000 on these each season.
  - After 5 years, the farmer will have broken even on their initial investment
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# Financials

## Year 1

- With 10 farms being serviced, we will have \$100,000 in revenue from the initial drone and visualization software set up
- If they each purchase 500 sensors at a price of \$4 each, we gain an additional revenue of \$20,000

## Year 2

- With 40 more farms, we will have \$400,000 in revenue from the initial drone and visualization software set up
  - If 50 each purchase 500 sensors at a price of \$4 each, we gain an additional revenue of \$100,000
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# Financials

## Year 3

- With 50 more farms, we will have \$500,000 in revenue from the initial drone and visualization software set up
  - If 100 farms each purchase 500 sensors at a price of \$4 each, we gain an additional revenue of \$200,000
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