

A smarter way forward for farming



Biodegradable IoT Sensors for Agriculture

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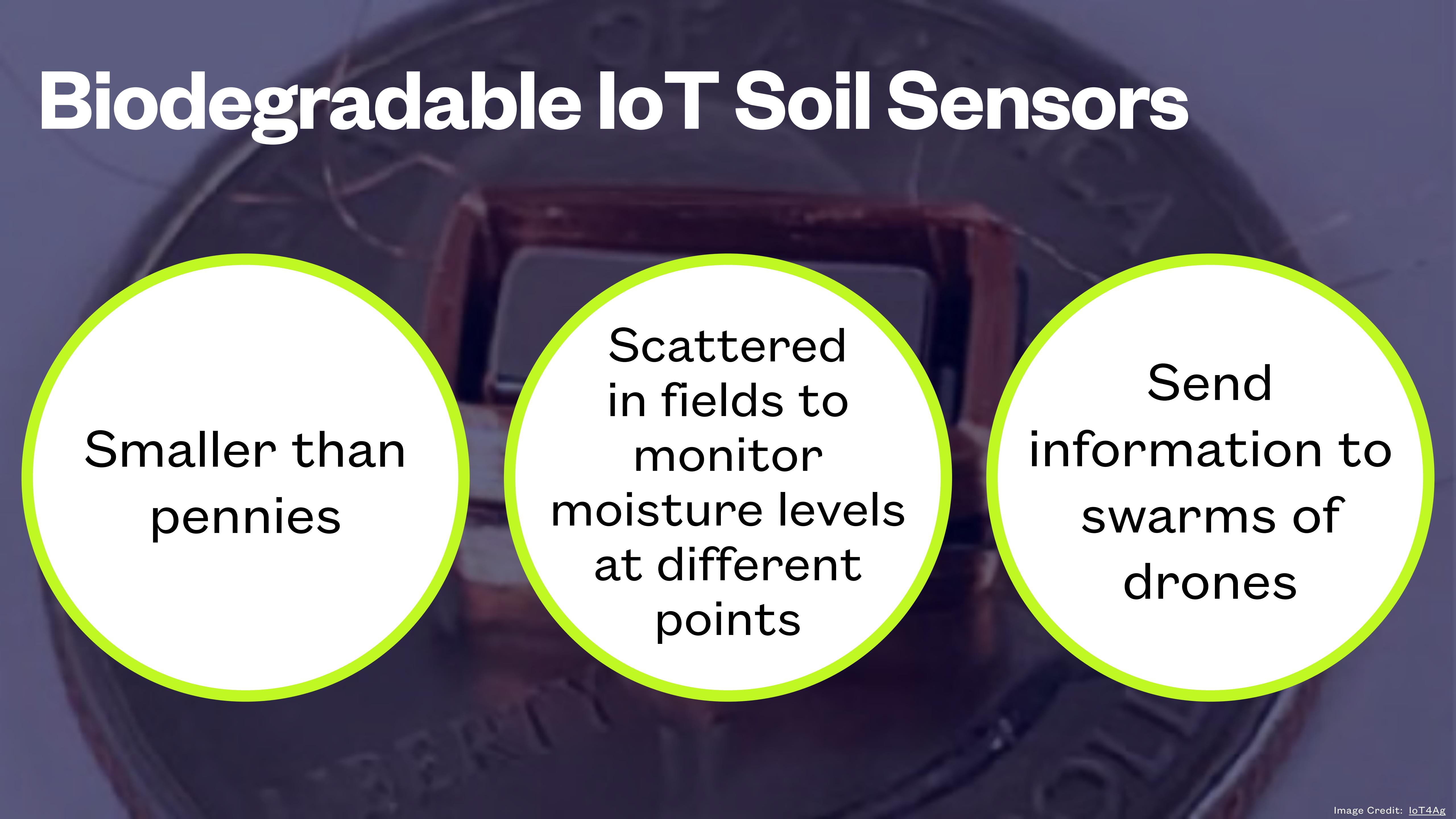
70%

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

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



A wide-angle photograph of a agricultural field being irrigated. A center pivot irrigation system is visible, spraying water onto the green crops in long, parallel rows. The sky is clear and blue.

25%+

Reduction in annual water usage

The Business Case

A photograph of a man in a plaid shirt and dark pants standing in a field of young green plants, likely soybeans. He is facing away from the camera, looking towards the horizon. The background shows more of the field and some trees under a clear sky.

\$1.1 trillion
agriculture industry
in the US

2.02 million farms in
the US

The Competition

\$690

HOBOnet Multi-
Depth Soil Moisture
Sensor



\$750

CropX Sensor
Probe



\$159

Onset Soil
Moisture Sensor



\$99.95

Lawn & Tractor Co.
Smart Plant Monitor



A photograph of a man and a woman standing in a field of young green plants. A tractor is visible in the background. The man is wearing a blue plaid shirt and jeans, and the woman is wearing a white cap and a red plaid shirt.

<\$1 USD

The cost of our biodegradable sensors

The Business Plan

A photograph of a man in a plaid shirt standing in a field of young green plants, viewed from behind. He appears to be examining the crops. The background shows more of the agricultural landscape under a clear sky.

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

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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