

Crop Yield Prediction

Gabby Nizri, Co-Founder, CEO

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The Founding Team

Founders, Entrepreneurs, and Tech Innovators. On a mission to build a powerful Generative AI platform to maximize crop yield production using Computer Vision & Satellite Imagery.



Gabby N.

Chief Executive Officer
Visionary entrepreneur and technology leader. With a passion for innovation and problem-solving. Co-founded an intelligent automation startup which was sold to an Insight Partners portfolio company in 2021.



Yuval S.

Chief Scientist Officer
Postdoc researcher at NASA Harvest. Specializing in developing new age AgTech applications using satellite and drone-based applications in agriculture, forestry and hydrology.



Oded P.

Chief Engineering Officer
M.Sc., 11 years of R&D in algorithms of computer vision and Machine learning\Deep Learning architectures. He has over 10 granted patents.



Oren H.

VP Algorithms & AI
Ph.D., with 20 years in developing image processing, computer vision, and machine/deep learning algorithms. Oren has authored over 10 papers and holds over 20 granted patents.



The problem

Major Disasters and Severe
Weather Caused Over \$21 Billion
in Crop Losses in 2023

Climate change, extreme weather, economic policies and conflicts undermining food security worldwide.

The existing methods for predicting crop yields are not adequate, limited by geography, depend on historical ground data, and do not provide real-time information.

SatYield AI for Climate-Dependent Crops.

Yield Prediction up to 3 months prior to harvest.

Harnessing the power of satellites imagery and deep learning.

A data-fusion AI platform, uses real-time data to observe, identify and detect potential crop losses.

Reducing uncertainties and complexities in the world's food supply chain.



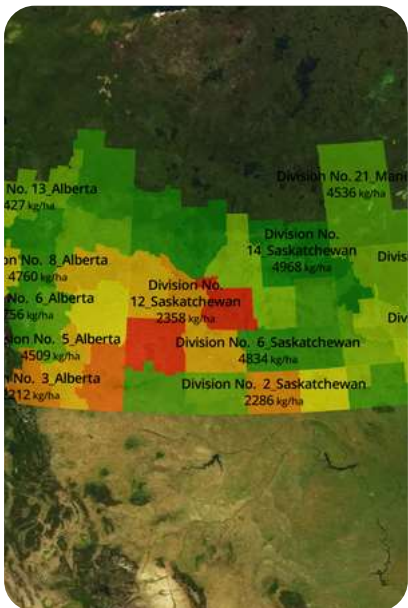
Get Sharper View Into Crop Yield Futures

Providing high accuracy prediction months ahead of the harvest can lead to the optimization of the entire agricultural supply chain, minimize risks, and improve crop yields by more than 10%, increasing the value to all stakeholders.

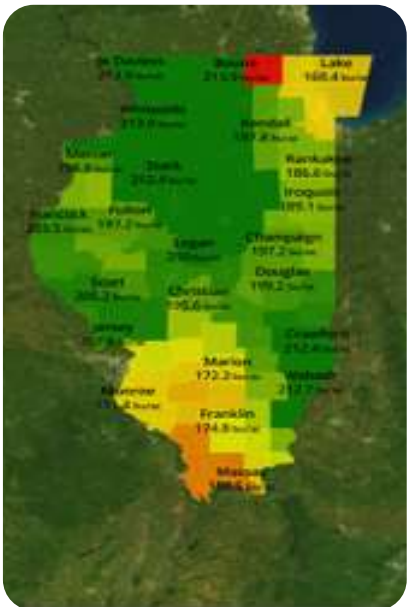


98% Accuracy Yield Prediction at State & County Level

Wheat
Canada 2022
99% Accuracy



Corn
Illinois - USA 2023
98% Accuracy



Soy
Mato Grosso, Brazil 2023
98% Accuracy



Crop Type	Location	SatYield (3-4 Months prior to harvest)	USDA (Ground Truth)	Accuracy (%)
Wheat	Canada*	3634 kg/ha	3611 kg/ha	99%
Corn	Illinois, USA	202 bu/ac	206 bu/ac	98%
Soybean	Mato Grosso, Brazil	3834 kg/ha	3773 kg/ha	98%

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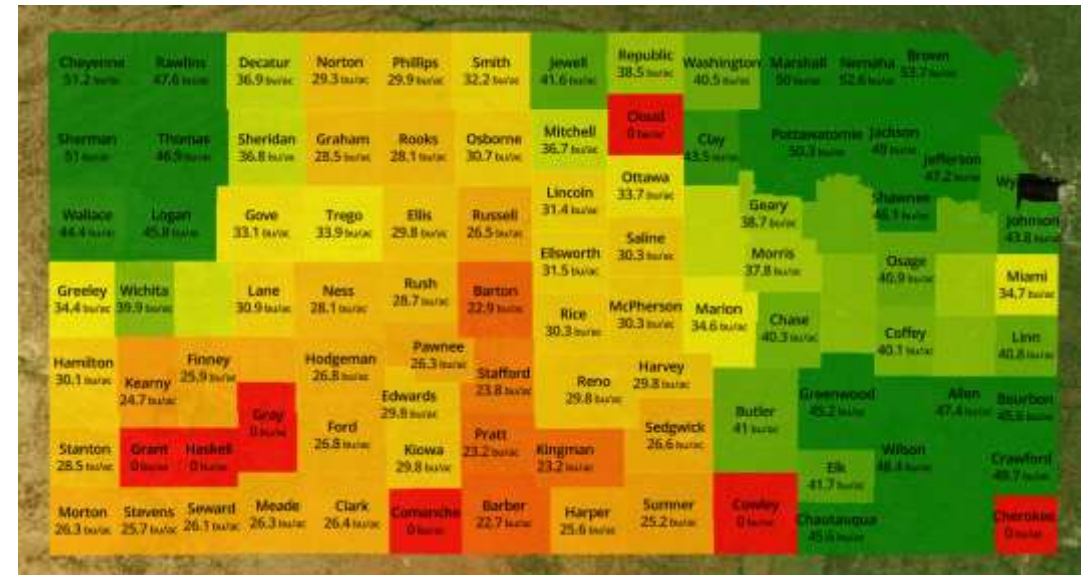
*3 provinces, 90% of the wheat production in Canada, Saskatchewan, Alberta, Manitoba

“Crop yield forecasting is the holy grail of smart agriculture. I’m approached regularly by firms stating they can offer better forecasting accuracy, SatYield is the only one that I am impressed by”.



Arlan Suderman,
Chief Commodities Economist at StoneX

Kansas Wheat, 2023, SatYield Results:
99%+ accuracy, 3 months before harvest.



*Results are compared to USDA ground truth data post harvest

Key applications for Commodity Traders

SatYield AI-driven yield prediction is a powerful tool that can significantly benefit commodity traders to enhance accuracy, efficiency, and profitability in trading strategies. Here's how we can help:



Early Forecasting:

Traders can obtain early and reliable forecasts of US and Global Crop Yields, three months prior to harvest with **high accuracy (95%+) 3 months** before traditional models and market reports are available.



Risk Management:

Access to near real-time yield & production estimates, allows traders to better assess risks and make informed decisions, potentially leading to **better market positioning** and **risk mitigation** strategies.



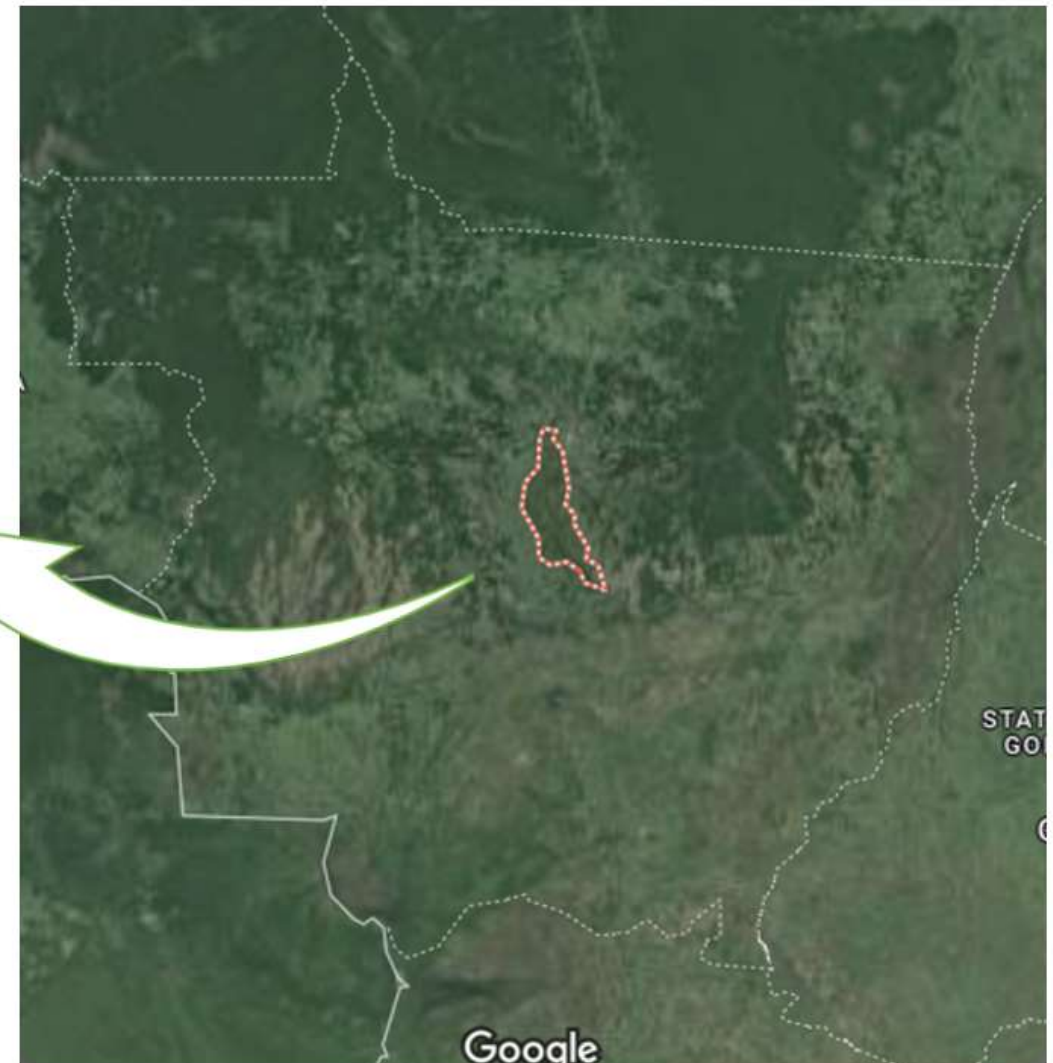
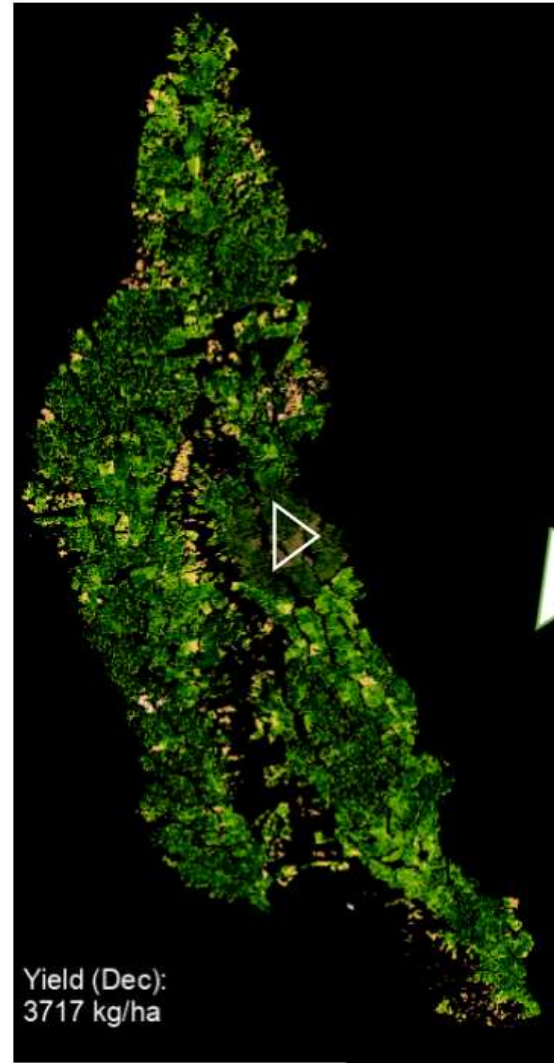
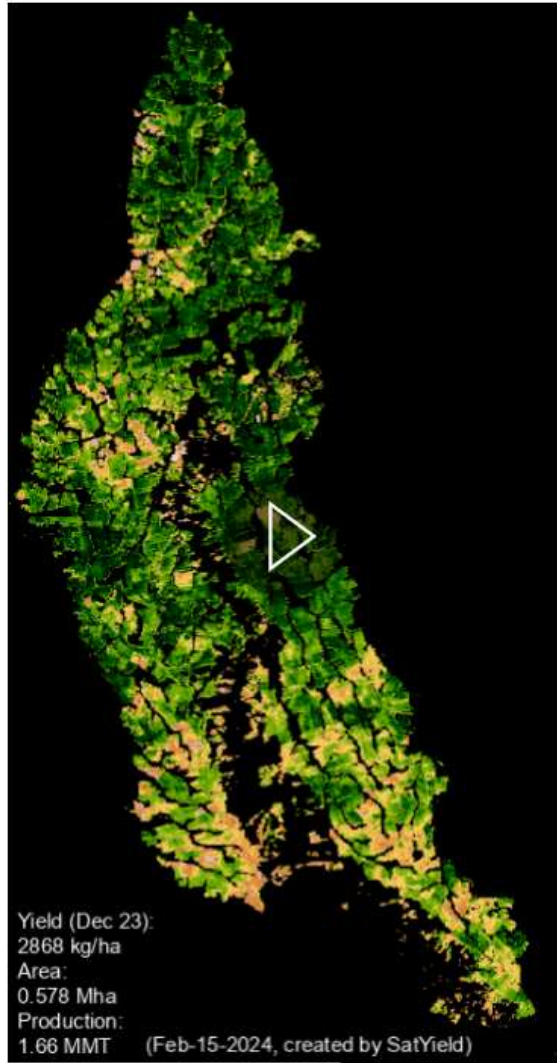
Enhanced Strategic Planning:

With advanced knowledge of potential yield and price variations, traders can plan their **buying and selling strategies** more effectively, optimizing their **profit margins** and **market influence**.

AI-Driven Crop Production Maps, Anywhere in the world

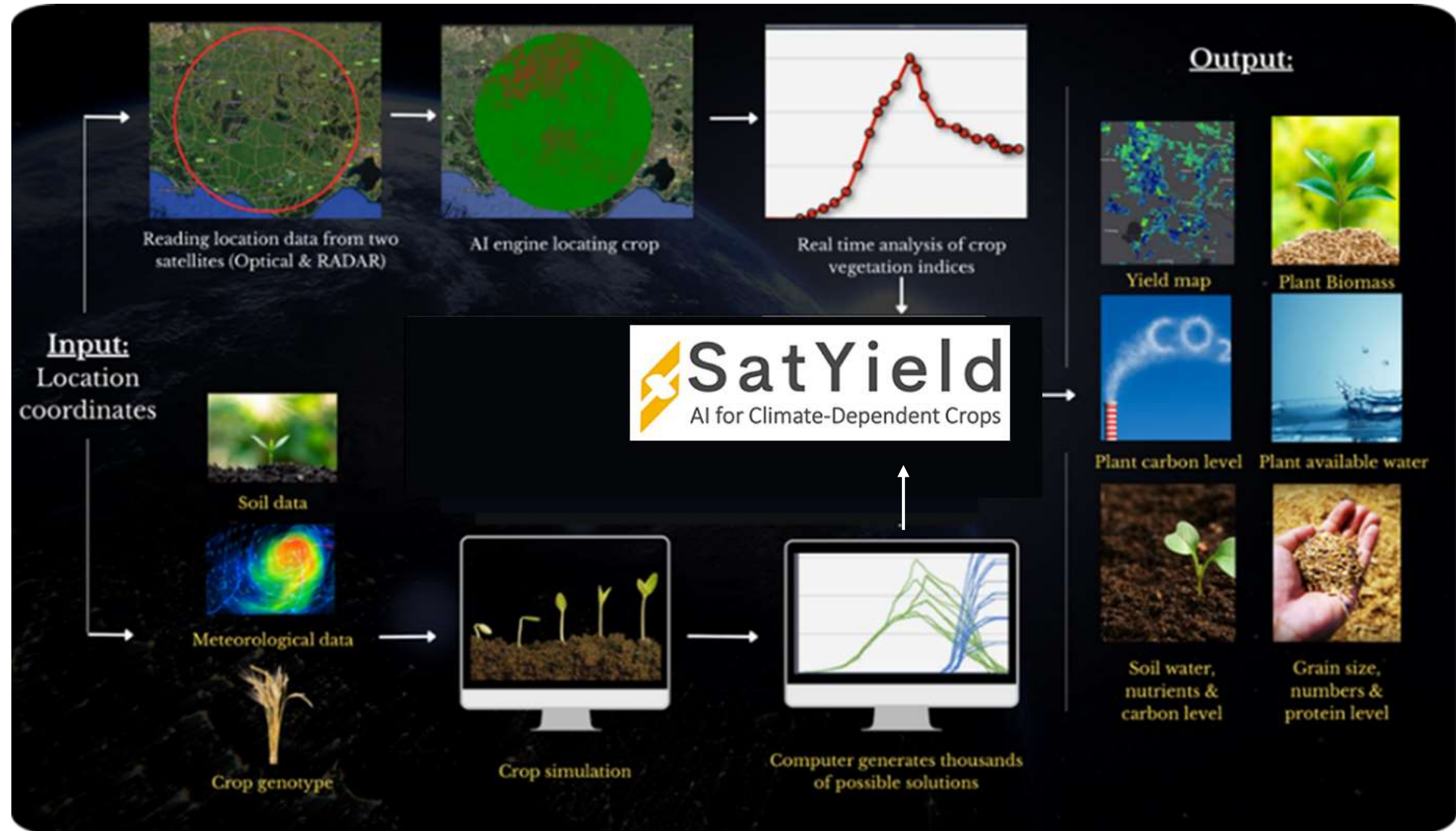
Soybean season 2023-2024 compared to 2022-2023.

Sorriso, State of Mato Grosso.



SatYield Data Fusion AI Platform.

Real-Time Satellite Imagery Integrated with Versatile Crop Simulator



Pending Patent: **Versatile Crop Yield Estimator.**

Tech Advantages

Based on Satellite imagery only – no historical ground data or model training is needed.

High accuracy – 1%-2% mean error at county and state levels, 10%-13% mean error, field level.

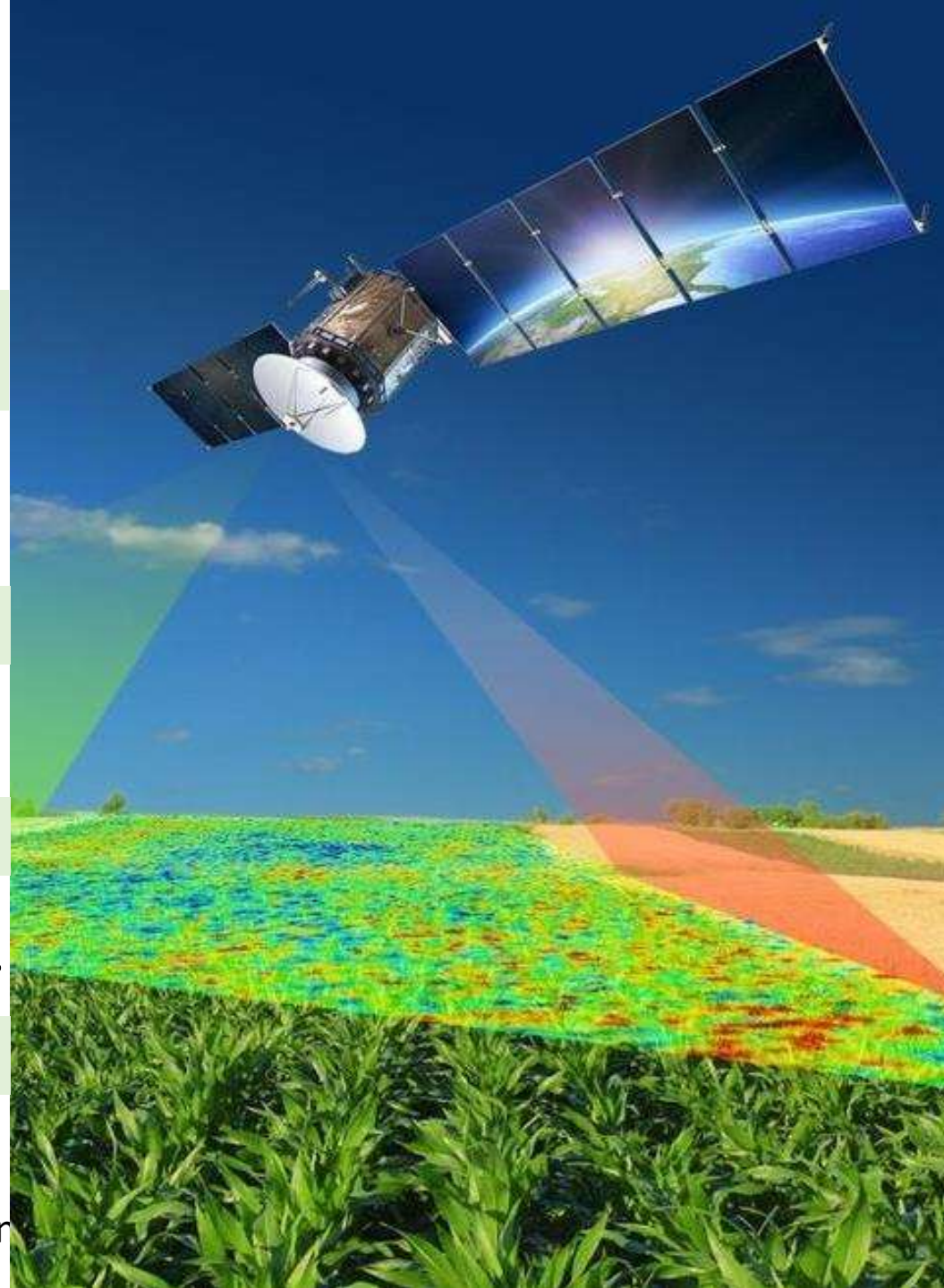
Low spatial resolution – 10 meter/pixel.

High temporal resolution - every 5-8 days.

Minimal data is needed – less prone to overfit.

Robust to clouds interference image enhancements using AI.

SaaS Cloud-based solution, No software or HW installed.



Target Markets & Customers

Benefits: providing high accuracy prediction months ahead of the harvest can lead to the optimization of the entire agricultural supply chain, minimize risks, improve crop yields by more than 10%, increasing the value to all stakeholders.
Reducing Uncertainties of Crops Futures.



Crop Insurance

In 2022 US farmers purchased over 1.2 million crop insurance policies, protecting 493 million acres



Ag Tech Partnership

Deliver cost-effective, scalable solution to reduce climate impact of agricultural operations



Commodity Traders

Provide insights to investors for making better decisions on hedging positions of commodity future contracts



Retailers, Supply chain, Gov

Optimization for production, storage, transport and shipping, up to the stores



Bio Energy

The \$31.6B biogas industry rely on feedstock availability to boost output and profits



Competitive Advantages

High accuracy and speed, in any climate.

Why SatYield?

- **Superior Prediction Accuracy - Over 94%** with precise data models for prediction of major crops yield, without ground data. Our wheat yield prediction is 20% higher than any other competitor.
- **We work in all geographies, all seasons, all times** – while others limited to specific locations, weather (clouds), and type of crops.
- **We expand Crop Models 10X faster** than any other competitor who may require extensive scientific expertise and resources over several months in much higher cost.
- **Patent protected (PCT):** Versatile Crop Yield Estimator. AI models running thousands of simulations of diverse agricultural scenarios, providing optimal planting date, allocate resources efficiently, and act as an early warning system against potential yield risks.

Competitive Landscape



NO HUNGER Sustainability Mission 2050

Helping to create a world free of hunger by 2050.



Investing in the agriculture sector is up to four times more effective in reducing poverty than investing in other economic sectors



Our mission and goal is maximizing crop yield production to ensure that valuable foods like corn, wheat and soybean are optimized to grow in any environment



Empower 1+ million farmers in developing countries to create a scalable and sustainable solutions by having access to reliable and relevant information on how to improve their agricultural practices and productivity.



Thank you!

www.satyield.com | Gabby@satyield.com

