



# PLANET AND DATTABOT HELP INDONESIAN FARMERS BOOST YIELDS AND GET CREDIT ACCESS



Satellite data analysis cultivates new opportunities for small landholders



## CHALLENGE

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Better estimate farm output and potential to enable access to financing.

## SOLUTION

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Planet Monitoring for Agriculture

## RESULTS

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- Up to 60 percent boost in farm output
- Up to 25 percent reduction in farm labor requirements
- Improved availability of financing for small farmers, thanks to precise crop yield estimates
- Accurate, ongoing monitoring of key crop types
- Access to reliable imaging—even in cloud-prone locations

“Our partners are very excited about the results we’re getting, which would not be possible without Planet’s services complementing our solution.”

**Dina Kosasih,**  
Agriculture Vertical Lead, Dattabot

Fluctuating weather patterns. Sudden crop disease. Difficult soil conditions. These variables frequently represent some of the biggest challenges in agricultural production.

*“Agricultural uncertainty is especially challenging in Indonesia,”* says Dina Kosasih, agriculture vertical lead at Jakarta-based data analytics company Dattabot. *“Many farmers here work small landholdings with traditional methods. Financial institutions are reluctant to provide financing to small farmers who often cannot reliably predict crop yields. Many of these farmers end up resorting to sources that provide credit at exorbitant rates.”*

# DATTABOT HARNESSSES THE POWER OF BIG DATA TECHNOLOGY TO SERVE CLIENTS IN VARIOUS INDUSTRIES, INCLUDING AGRICULTURE

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As part of its mission, the company is dedicated to speeding the progress of agriculture in Indonesia and other developing countries.

*“Financial institutions would be more likely to offer credit to small farms if there was a better sense of the risk involved,”* says Kosasih. *“This is where our technology comes into play.”*



## WHAT OUTPERFORMS DRONES FOR IMAGE GATHERING?

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One way to measure land potential for each farm—no matter how small the acreage—is to examine integrated, drone-captured images and sensor readings. However, drone-mounted cameras proved to be a weak link in early Dattabot trials of this method.

*“Running a drone up and down a field multiple times is very labor-intensive and time-consuming,” says Kosasih. “We found that drones and other aircraft did not*

*capture large-enough areas to be cost-effective.”*

Another challenge was the rapidly fluctuating Indonesian weather. *“You can have monsoon-like rain, followed by bright sun, followed by more rain and cloud cover—all in a day or two,”* says Kosasih. *“You can’t count on good visibility. It might take multiple attempts to get decent imaging of an area.”*

## FINDING THE IMAGES CAPABLE OF TRANSFORMING AGRICULTURE

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To address these challenges, Dattabot decided to use Planet satellite imaging. *“Planet was the only provider that met all our requirements,”* says Kosasih. *“We needed high-frequency imaging to have the best chance of getting clear, cloud-free shots of farms. Otherwise, weeks might go by before we had updated views, which would create a window of time in which poor soil conditions or disease could go undetected and hurt crop yields.”*

Dattabot also needed image quality that was suitable for agriculture monitoring. *“Crops that are widely grown—such as coffee beans, corn, and rice—require high-resolution satellite imaging to identify changes in the plants. Those changes may indicate growth or reveal the presence of disease, pests, or soil conditions*

*requiring treatment,”* says Kosasih.

With Planet’s high-resolution, high-frequency global imaging satellites, a constant stream of current information is available for Dattabot to analyze. *“Planet is unique in delivering data from its satellites directly to the cloud, and we can access that critical information within 24 hours,”* says Kosasih. *“We use that data to create a microclimate segmentation that can be used to profile the productivity index of each plot of land.”*



## DELIVERING MEASURABLE RESULTS FOR FARMS AND FARMERS

Planet's high satellite revisit rate and image resolution has substantially improved field management for Dattabot's farming customers in Indonesia.

*"It means we can offer a better analytics solution for our agricultural partners and provide precise agronomic recommendations that can improve productivity," says Kosasih. "For example, in our trial involving more than 1,300 farmers and 4,200 acres of corn, we have managed to increase farm output by up to 60 percent while actually reducing farm work by as much as 25 percent. Our partners are very excited about the results we're getting, which would not be possible without Planet's services complementing our solution."*

An added advantage is being able to estimate the production from each farmer, which in turn can be used

as an alternative method of credit scoring. *"We hope that farmers can improve their quality of life through greater output and better access to credit," says Kosasih. "And with more precise crop estimates, we hope financial institutions can be more confident about lending money to small farmers."*

To help ensure these positive outcomes, Dattabot is partnering with organizations that promote microfinance and help farmers connect with groups of small-scale lenders. *"The microfinance organizations have an opportunity to acquire a whole new group of underserved customers," says Kosasih. "At the same time, this approach can ultimately lead to better financial inclusion for farmers, improving the overall agricultural industry ecosystem in Indonesia."*

### FOR MORE INFORMATION

- To learn more about Planet satellite monitoring services, visit [planet.com/markets/monitoring-for-precision-agriculture/](https://planet.com/markets/monitoring-for-precision-agriculture/)
- For more about Dattabot, go to [dattabot.io](https://dattabot.io)



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