Generating On-Demand Aerial Insights From Your Fields
July 27, 2017
Agenda

• Introduction
• Drones in Agriculture
• Gathering Insights Around the Farm
• DroneDeploy Product Overview and Demo
• SLANTRANGE
• Getting Started
• Q+A
Introduction

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10 Million Acres Mapped in 160 Countries
Drones in Agriculture
Introducing Drone Data Management

- Fly your drone
- Process your map
- Analyze maps and models to take action
Why Use Drones for Mapping?

- Easy to use
- Cost-effective
- High resolution
- On-demand
- Robust analysis
Gathering Insights Around the Farm
Identifying Crop Variability

- It’s all about spotting variability in the field and determining if you can act on it.

- Once you know where problem areas are, you can work to diagnose and treat issues.
Crop Scout to Detect Parasites, Fungi, and Other Variation

Detect aphids, rust, and other pests to take action quickly
Rather than the 5% loss the planter claimed, the map showed 26% fewer plans than the farm had been billed for.
Generate Variable Rate Prescriptions

- Understand crop and soil issues
- Generate prescriptions using aerial crop imaging
Evaluate Test Results

- Evaluate test results over time
- Track progress and plant health throughout the season

Soybean varieties

Fungicide tests
Assess and Clean Up After National Disaster
Negotiate Fair Crop Loss Percentage
Irrigation and Drainage Planning and Repair

View drainage tiles

View drainage elevations
Livestock and Grazing Management

- Count livestock and monitor grazing patterns
Product Overview
Powerful Drone Mapping Software

FLY
Plan a mission, automatically fly and capture aerial imagery with your DJI drone.

PROCESS
Use imagery from any drone to create collaborative maps and 3D models.

ANALYZE
Explore trends, make measurements and incorporate drone data in your everyday tools.
Automatic Drone Flight

Fly and capture images using any DJI drone

- Pre-plan missions for offline flight
- Easily repeat flights for regular crop monitoring
- Capture imagery with sensors from SLANTRANGE, Sentera, and more
Spot threats quickly using NDVI and other plant health algorithms, so you can:

- Save time with more efficient crop scouting
- Monitor impact of treatments and test over time
- Develop variable rate prescriptions
Built for Use in the Field

Create maps in real time using Fieldscanner

• Instant field maps
• Begin crop scouting in minutes
• See plant health in real time
Meet Fieldscanner: Real-Time Drone Mapping is Here
Instant In-Field Analysis of Your Crops

Fieldscanner

DroneDeploy Map Engine
Meet Fieldscanner: Real-Time Drone Mapping is Here
Leverage DroneDeploy’s App Market

Apps for the entire growing season
DroneDeploy in Action: Demo
Fieldscanner (beta)

Complete a lower resolution 2D map as the drone flies. This does not interfere with your normal mapping flow.

Fieldscanner works best with modern DJI drones: Phantom 4 Pro, Mavic Pro, Inspire 2.
Fieldscanner only works on modern Apple devices: iPhone 6 and beyond, iPad Air 2, iPad Mini 4.
Fieldscanner is not currently supported on Android.
Valuable new crop information through edge node sensing & analytics.
Instantly, anywhere in the world.
What information is most valued?
How do we define information value?
Information Actionability

Radiometric accuracy is essential for information value
Information
Actionability

Accuracy involves more than radiometry
Information

Actionability

Uncovering field conditions not previously detectable

Satellites & manned aircraft systems show uniform field health...

...while low altitude spatio-spectral sensing uncovers conditions unseen by other observations

Vegetation Stress reveals nutrient deficiencies

Vegetation Fraction reveals significant biomass variability

Yield Potential is dominated by conditions unseen without cm-level resolution
Information Actionability

Information for critical early-season decisions
Information
Actionability

On-site signals and pattern classification to detect failing irrigation systems
Information Availability

Most of the world’s agricultural lands are inaccessible to drone surveys due to computing requirements.

Agricultural Lands

5.5 B acres worldwide agricultural acres that can benefit from drone surveys.

Computing Accessibility

0.1 B acres with reasonable computing access for drone surveys.
Information Availability

Innovative approaches to efficient collection and processing

Traditional Survey Method

70-80% Image Overlap

SLANTRANGE Method

20% Image Overlap

4x Faster Collection
Immediate On-Site Results
10x Lower Operations Costs

Traditional

Minutes

Setup | Collect | Process

10 | 60 | Hours or Overnight

SLANTRANGE On-Location, Immediate Analytics

Minutes

Setup | Collect | Process

10 | 15 | 5
Information Actionability

A story from a 160-acre Minnesota corn field

Reduced N 30-40 lb/acre $10
Increased yield $20

$30/Acre

Lower residual N benefit to next year’s sugar beets?

“Icing on the Cake”
Accurate.
Immediate.
Anywhere.

Advanced In-Field Agricultural Analytics

Spatio-Spectral Remote Sensing Systems
SLANTRANGE + DroneDeploy

Combining calibrated multispectral sensing and instant, in-field results with powerful cloud-based analytics, storage, and sharing

- True Calibrated Multispectral Imagery
  - Measurement accuracy required for time-based analyses
  - Earlier detection of conditions

- Open Ecosystem
  - Use SLANTRANGE, DroneDeploy, or App store tools on your calibrated SLANTRANGE imagery
Getting Started
Start Mapping with DroneDeploy for Free

- Sign up at [www.dronedeploy.com](http://www.dronedeploy.com)
- Get the free mobile app
Learn More

• Visit resources.dronedeploy.com

• Read our blog blog.dronedeploy.com

• View our support docs support.dronedeploy.com/docs

• Join the DroneDeploy User Forum
Thank You!

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