



Hidden Treasures Beneath

Kellie Lewelling
Oklahoma Corporation Commission

GI Council
January 10, 2020

Phantom 4 Pro

- Camera with 1 inch 20MP sensor
- Five directions of obstacle sensing
- Remote control with built-in screen
- Mobile App – DJI GO 4



FLIR Boson 320

Thermal Camera

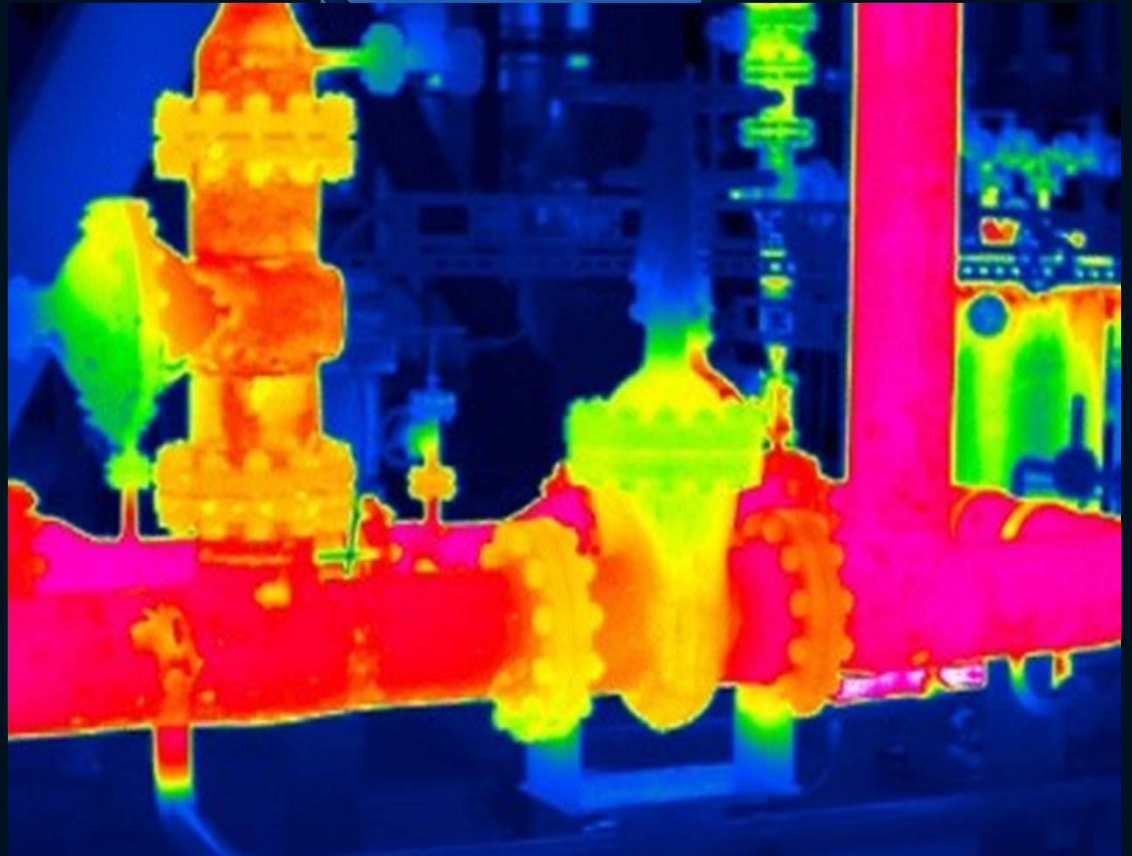
- Firefighting Uses
- Search and Rescue Missions
- Security
- Vision Sensors
- Live-Stream Video
- Stabilized 4K Video



Pipeline Example

Thermal Camera

- Crude Oil and Gas
- Steam hot water mains
- Chemical
- Power Plants
- Agriculture
- Waterways
- Leak Detection
- Tank Level Detection
- Other anomalies





DJI Matrice 210 V2

Overview

- First-Person Camera View
- Water and Dust Resistant
- Advanced Obstacle Sensing
- Longer Flight Time (38 min.)
- Range Up To 5 Miles
- Anti-Collision Beacon
- DJI Airsense
- Intelligent Controls
- <https://youtu.be/IHXxcinyD7g>

MagDrone R3

Magnetometer Survey Kit

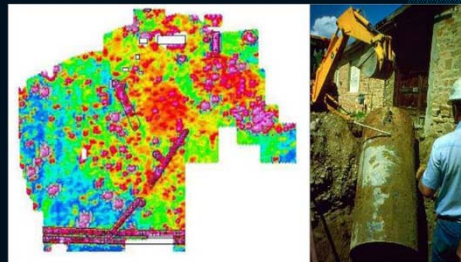
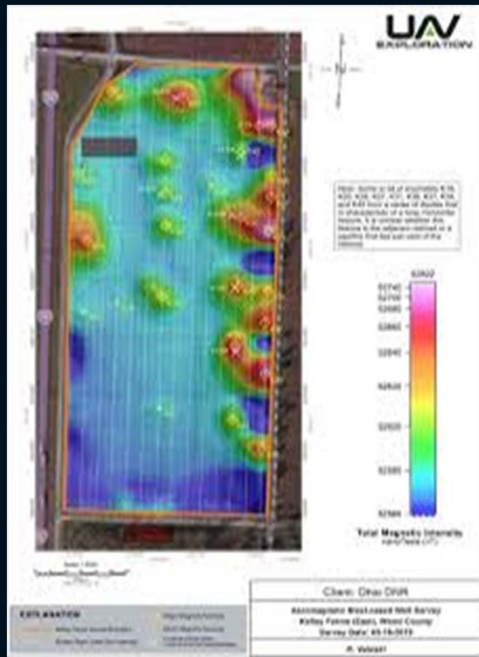
Includes:

- Light Weight Sensor Tube with two built-in 3-axis Fluxgates.
- 1-Button Data Logger with internal SD
- Rechargeable Batteries
- Own GPS System

Uses:

- Oil and Gas Exploration
- Mineral Exploration
- Safety Operations
- Recovery (underwater)

Well Locations



Snoopy M8 LiDAR

LiDAR- a surveying method that measures distance to a target by illuminating the target with laser light and measuring the reflected light with a sensor. Differences in laser return times and wavelengths can then be used to make digital 3-D representations of the target.

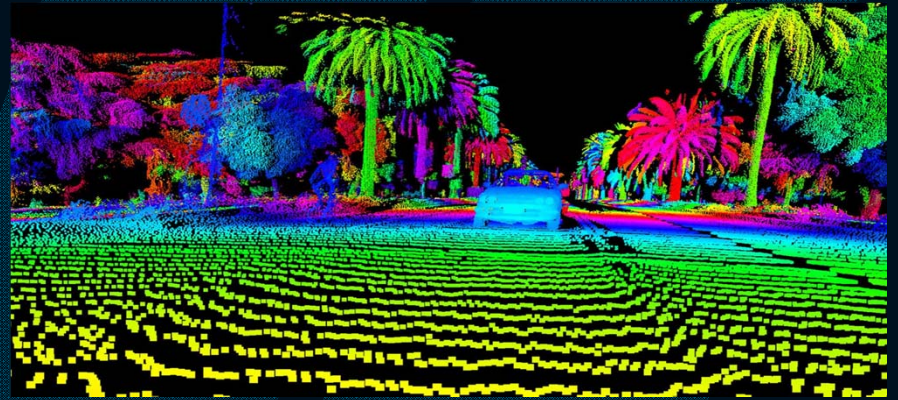
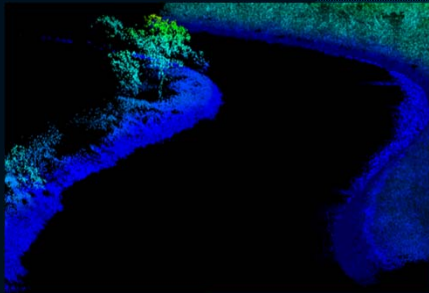
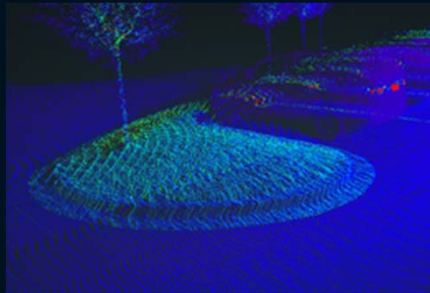
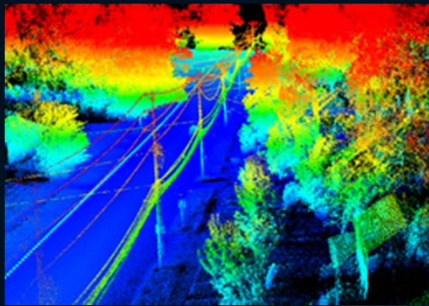
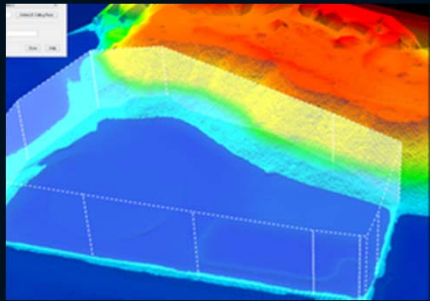
Features:

- Light Weight 1.7kg
- Consumes 25 Watts of power
- 2 cm accuracy at 50m
- 15-17 minute flight time
- Data stored for several days

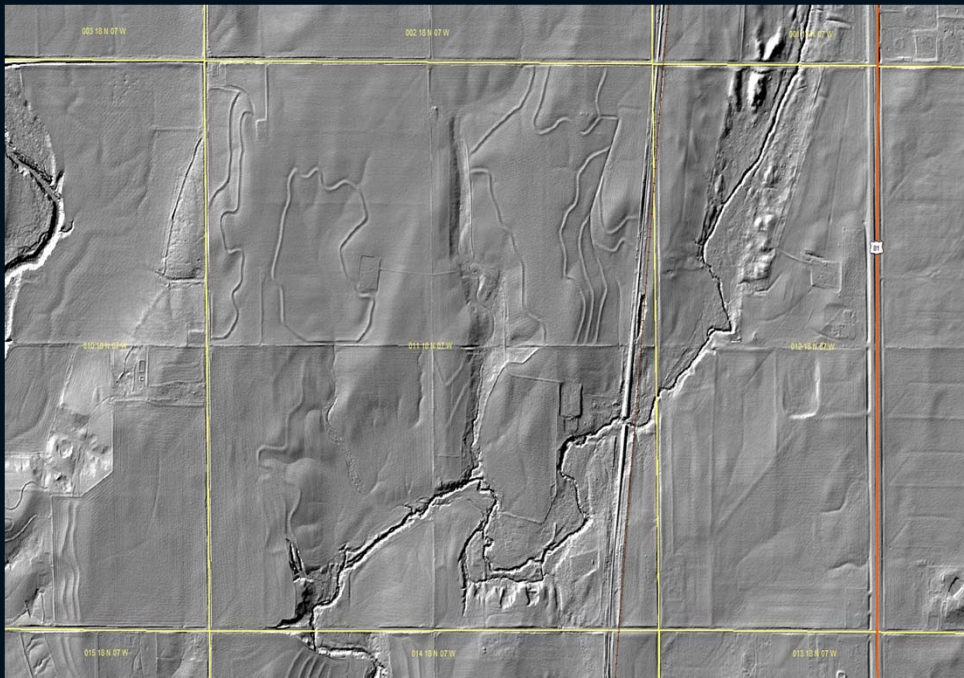
Uses:

- Utilities
- Volume Calculations
- Roads
- Water shed
- Oilfield

LiDAR



LiDAR



Safety is Key

Natural Disasters

- Floods
- Tornadoes
- Lightning Strikes
- Wildfires



Floods



Tornadoes



Lightning Strikes



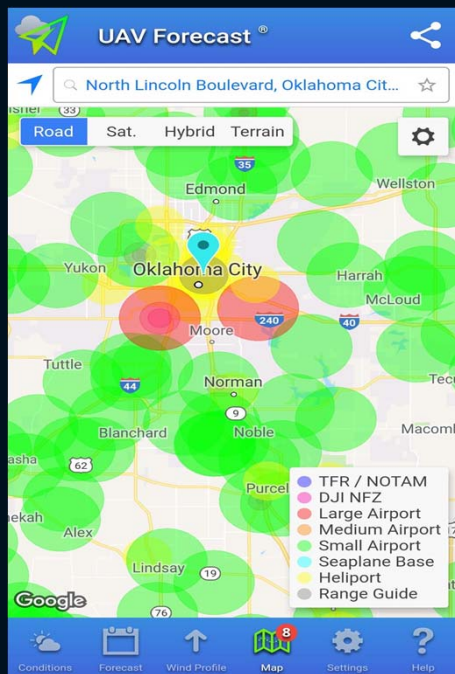
Wildfires



Our First Flight



Cool App UAV



A screenshot of the UAV Forecast app interface showing a "Not Good To Fly" status. The top bar shows the app name and a search bar with the location "North Lincoln Boulevard, Oklahoma Cit...". Below the search bar is a red banner with the text "Not Good To Fly". The main content area displays a grid of weather and flight data:

Weather	Sun ↑ 07:10 ↓ 19:43	Temperature 83°F
Wind 17 mph	Gusts 19 mph	Wind Dir. N
Precip Prob 49%	Cloud Cover 49%	Visibility 10 miles
Visible Sats 14	Kp 1	Sats Locked 14.0

At the bottom, it indicates "▲ 8 heliports nearby". The bottom navigation bar includes icons for Conditions, Forecast, Wind Profile, Map, Settings, and Help.

A screenshot of the UAV Forecast app interface showing a "Good To Fly" status. The top bar shows the app name and a search bar with the location "North Lincoln Boulevard, Oklahoma Cit...". Below the search bar is a green banner with the text "Good To Fly". The main content area displays a grid of weather and flight data:

Weather	Sun ↑ 07:10 ↓ 19:43	Temperature 83°F
Wind 17 mph	Gusts 19 mph	Wind Dir. N
Precip Prob 36%	Cloud Cover 49%	Visibility 10 miles
Visible Sats 15	Kp 1	Sats Locked 14.8

At the bottom, it indicates "▲ 8 heliports nearby". The bottom navigation bar includes icons for Conditions, Forecast, Wind Profile, Map, Settings, and Help.



THANK YOU!

Kellie Lewelling

- Oklahoma Corporation Commission

Phone

405-522-2733

Email

Kellie.Lewelling@occ.ok.gov