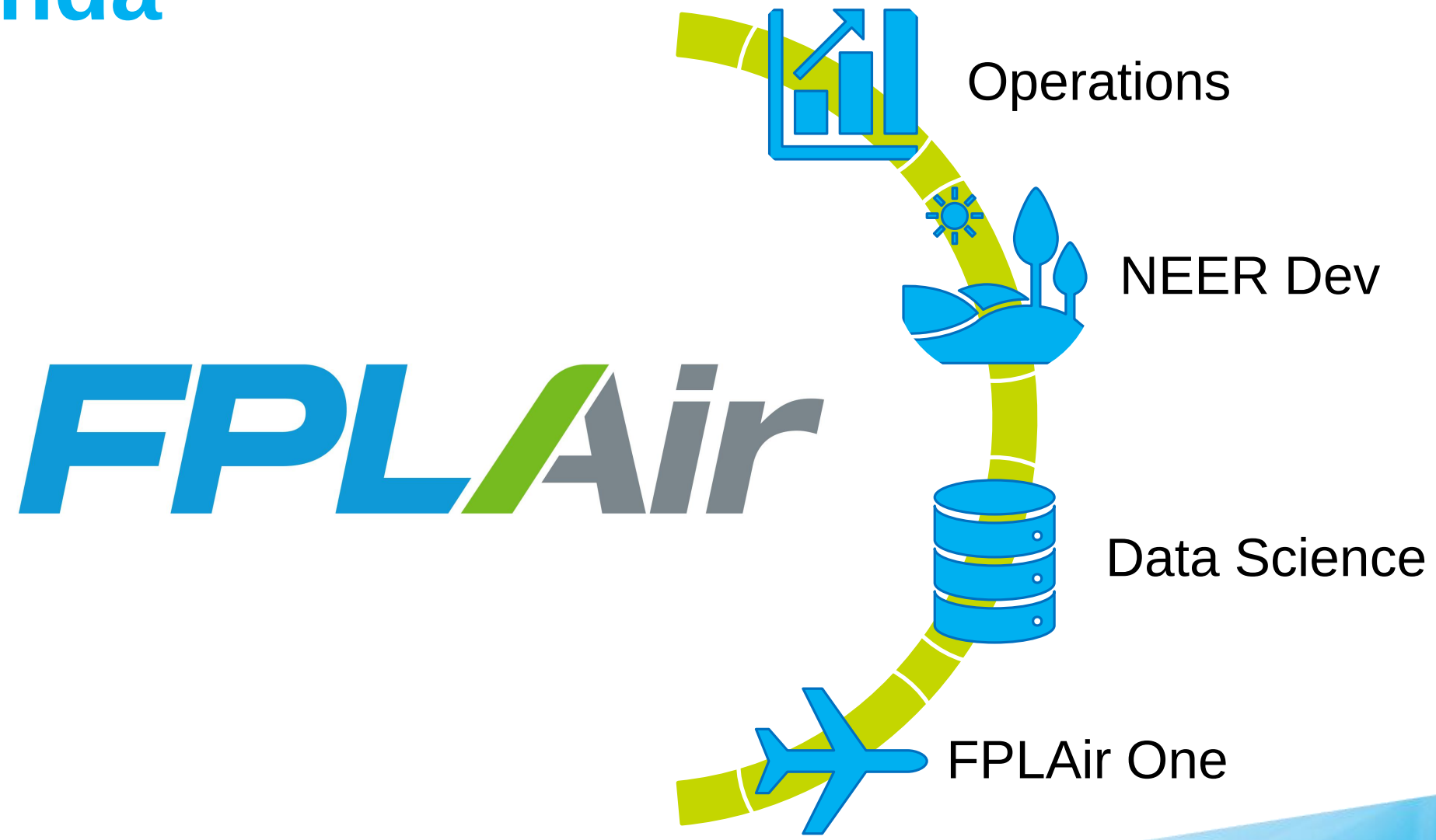
FPL

FPL Air

Eric Schwartz
NCNC Annual Meeting

Agenda



Proprietary & Confidential

FPLAir continues to evolve to meet the needs of our customers

FPLAir

Under 55lb Operations

- Crewed Flight Ops
- Drone in the Box Ops

FPL Air One

NEER LIDAR

Data Science

- Image Recognition
- Machine Learning

FAA

Proprietary & Confidential

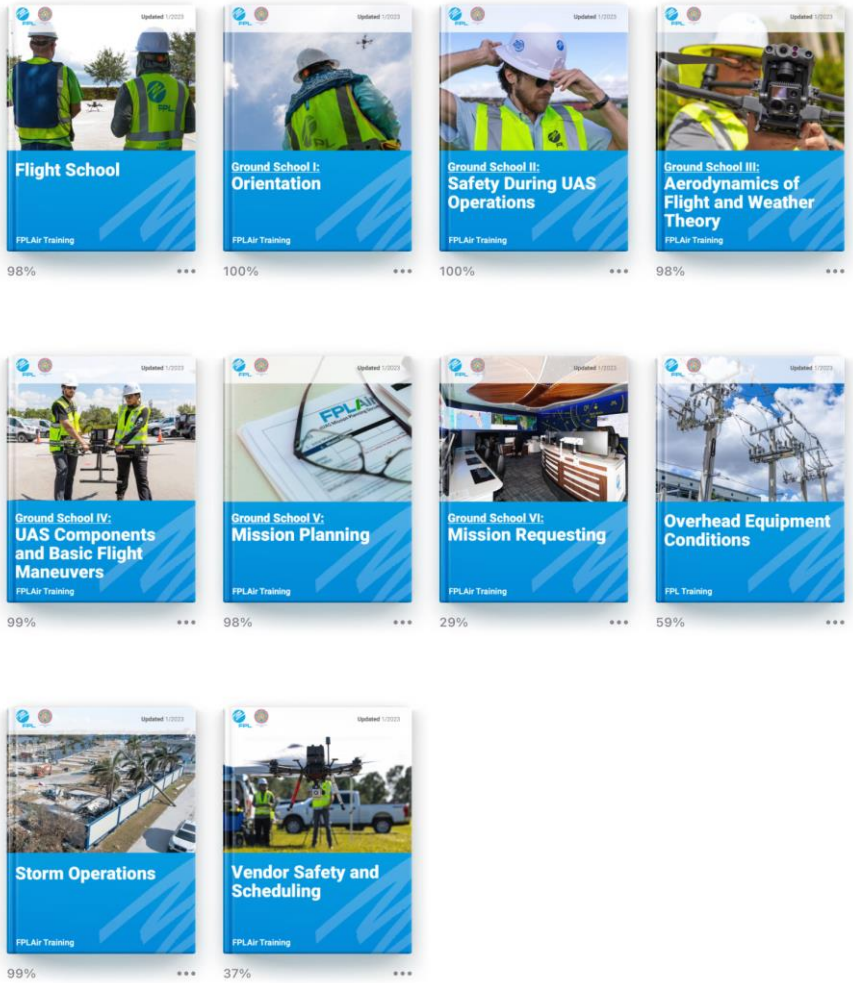
FPLAir Operations Update 2022

2021	2022	
4123 Missions	7105 Missions	Best Ever
120K Flights	142K Flights	Best Ever
.007 Incident Rate	.003 Incident Rate	Best Ever

- **AUVSI's XCELLENCE in operations Award**

Proprietary & Confidential

Safety & Training



CHAPTER 1

Introduction

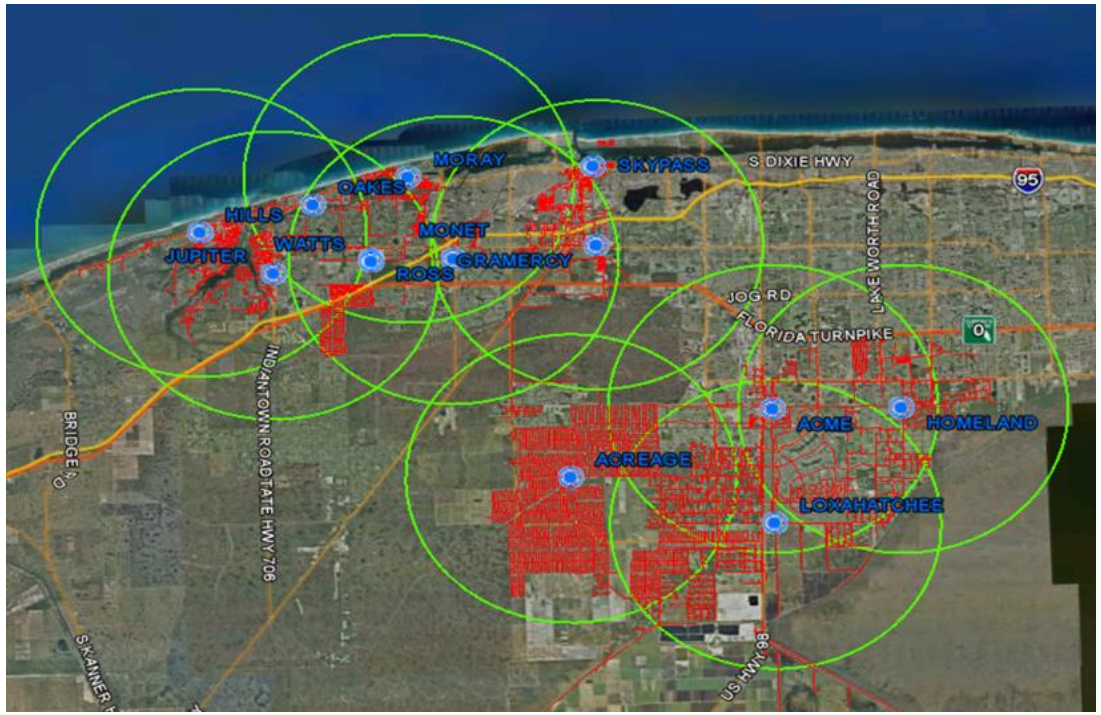
1.1 Training Objectives 2
1.2 Our Core Values 3
1.3 Flying for FPL and NextEra Energy 4
1.4 Power Delivery Guiding Principles 5
1.5 FPLAir 7 Saves 7
1.6 FPLAir Safety Checklist 9

Proprietary & Confidential

FPLAir will deploy autonomous drones at our substations in the coming years to monitor our grid across the state

Drone-In-a-Box (DIBs) Roadmap

- **On demand DIBs operations will automate workflows to increase situational awareness and event response, boosting critical infrastructure resiliency for our customers**



Highly Automated Beyond Visual Line of Sight (BVLOS) waiver/exemption was approved Jan. 2023

Proprietary & Confidential Information
Proprietary & Confidential

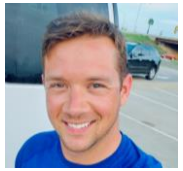
NextEra Energy Resources LiDAR Drone Program

Pilot Team BIO

Angelica Ulloa
Associate Drone Pilot

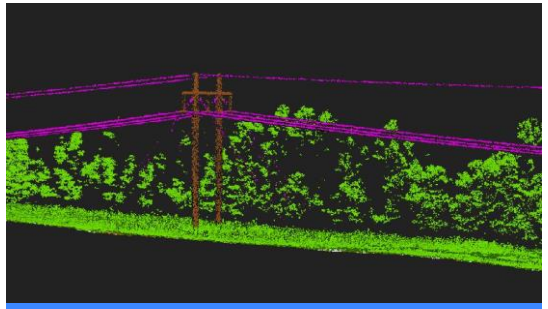
Paul Hubbard
Associate Drone Pilot

Jorge Delgado
Associate Drone Pilot

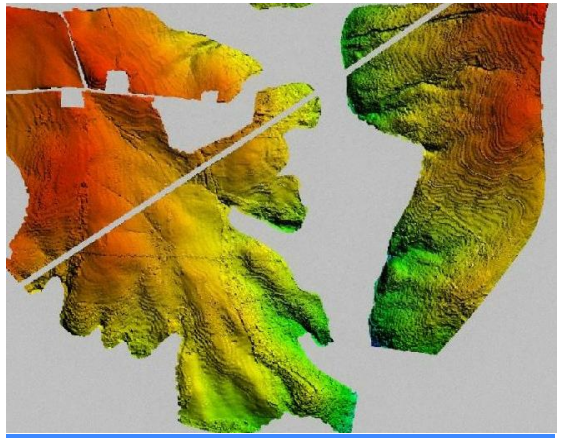


Dalton Newell
Associate Drone Pilot
Started November 14th!

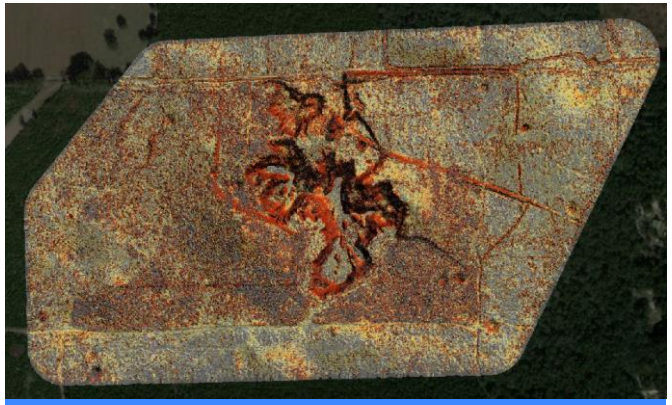
Q3-Q4 Projects



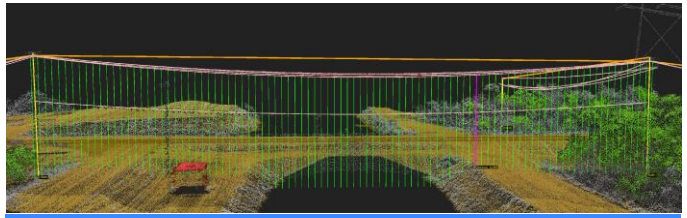
NEER Dry Creek Solar –
Point Cloud Classifications



NEER Mist Flower Solar – DEM



NEER Tiger Lake Solar – Slope map

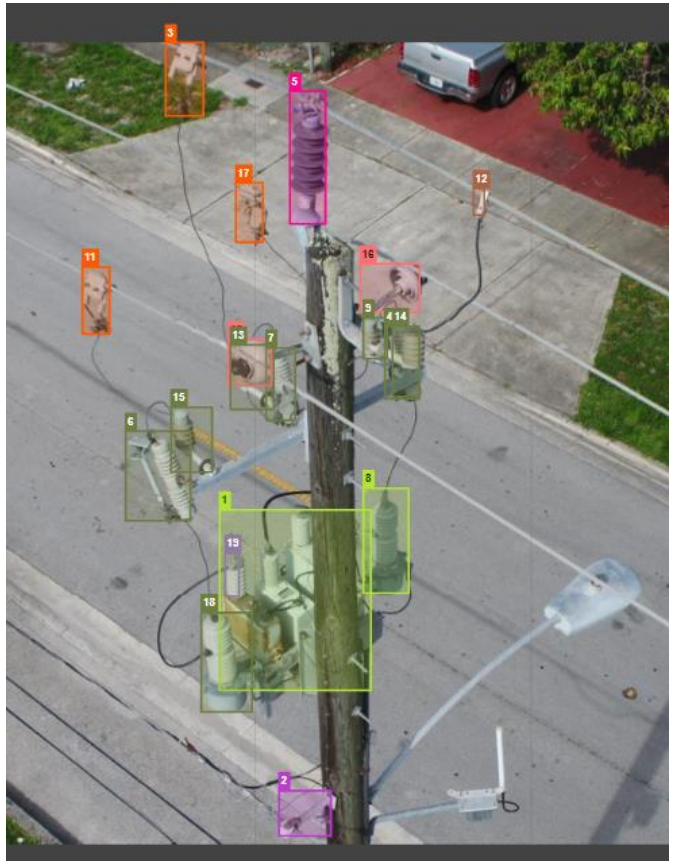


FPL/SFWMD - Wire clearance height

Proprietary & Confidential

Image Recognition Program

- **Brought together a dedicated team in corporate IT to work on multiple fronts: AWS data management and enhancement, GUI development and model development**
  - IT Manager: David Sunderman
- **Multiple in-house POC's for model dev with AI team**
- **Cross team collaboration with SGI data science projects and corporate GIS with regular meetings**



Components

- Ceramic Insulator
- Fuse Switch
- Hot line Connection
- Lighting Arrestor
- Mushroom Insulator
- Polymer Insulator
- Stirrup
- Transformer
- Wheel

https://jira.nexteraenergy.com/secure/RapidBoard.jspa?projectKey=FPLR&rapidView=7612

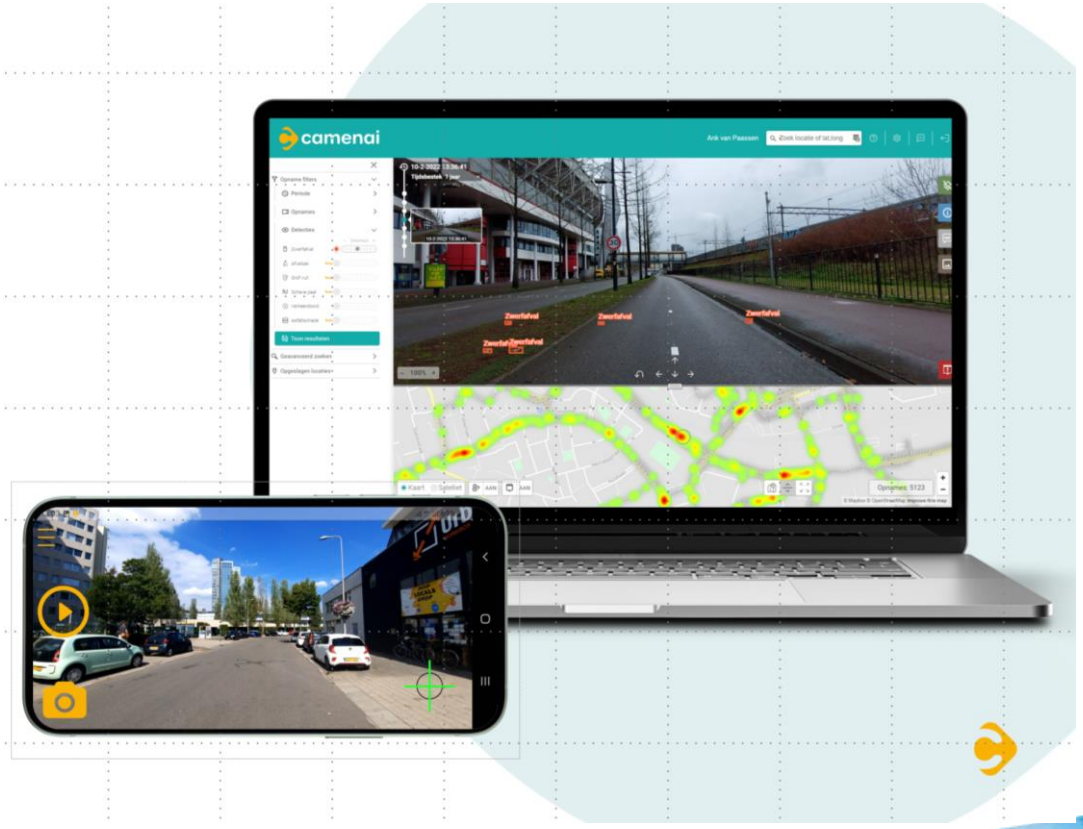
Proprietary & Confidential

Image Recognition POC Projects for 2023

Vehicle Mounted Image Capture

3D reconstruction

AI off the shelf



Proprietary & Confidential

FPL AIR 2022 Year in Review

Flight Statistics:

- 48 Flights
- 111 Hours flown
- 190 Landings

Major events completed:

- Training and testing at NY Test Site
- 2022 Storm Dry Run
- First flight in Florida
- Hurricane Ian deployment

Proprietary & Confidential

Hurricane Ian

- Maiden storm deployment, operating from Arcadia Municipal Airport
- Completed 7 missions
- Coverage area spanned over 1700 sq miles
- Longest mission was over 5 hours
- Farthest mission was 50 nm from base
- Highest mission was 5500’
- Over 2200 miles travelled during Ian

Proprietary & Confidential