

Drones for Bridge Inspection

Presented to Louisiana Parish Engineers and Supervisors
Association

October 3, 2019



Unmanned Aerial Systems (UAS)

- A collaborative project between the Louisiana Department of Transportation & Development, the Louisiana Department of Economic Development, and the Louisiana Airport System.

LADOTD-Aviation, 2017



Unmanned Aircraft System (UAS) Program Overview

- Equipment
- Regulations and Personnel
- Sunshine Bridge
- Atchafalaya Basin Bridge



Karma

Lancaster



Inspire 2



Albris

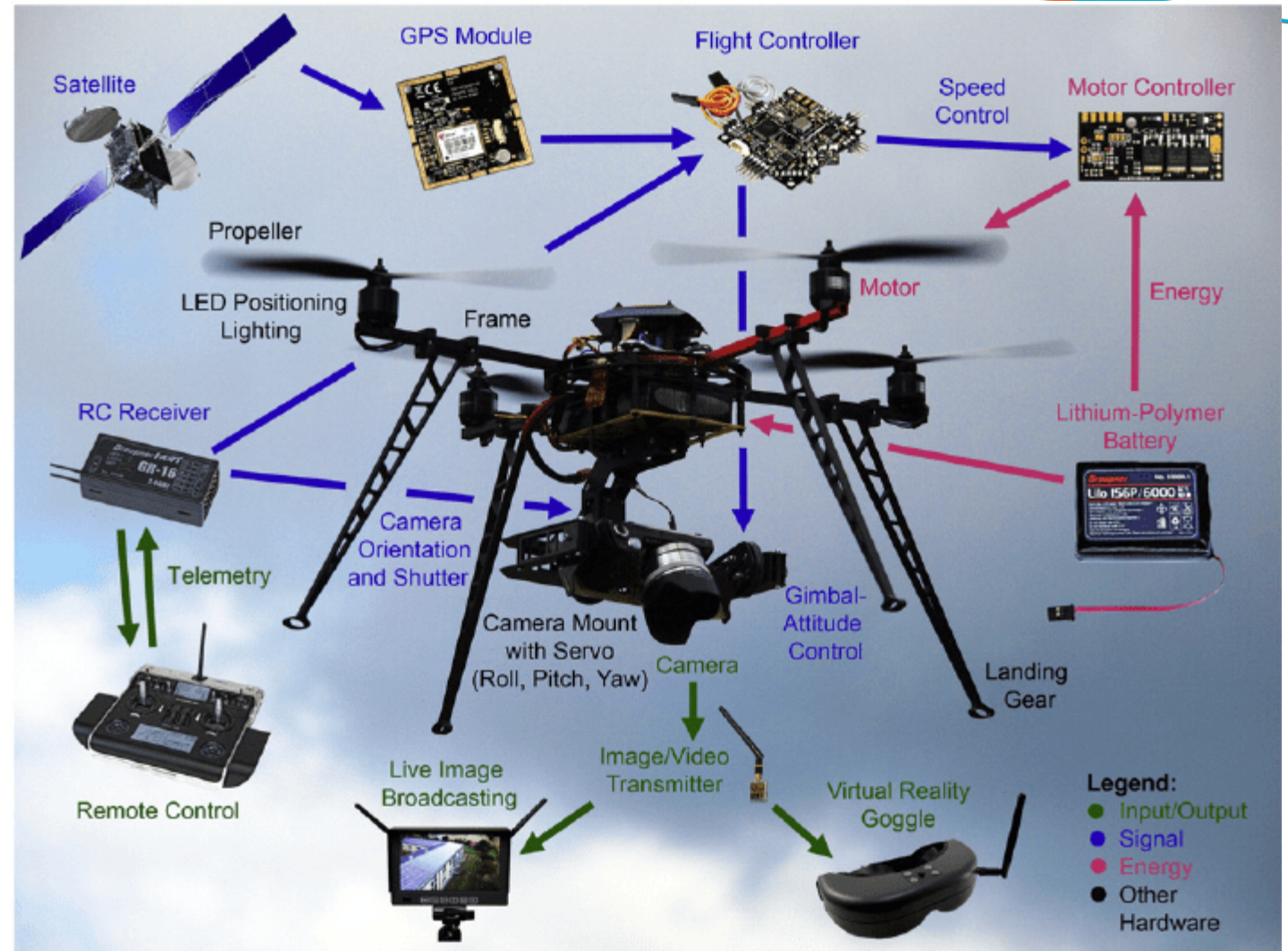
Regulation

- FAR 107
- 400 Feet
- Visual Line of Sight
- Operating over people or moving traffic
- Daytime
- Visual Observer
- Controlled Airspace
- Give Way
- Hazardous Materials
- 100mph



Unmanned Aircraft System

- Multiple Layers
- Backup Systems
- Diverse Sensors
- Autonomy

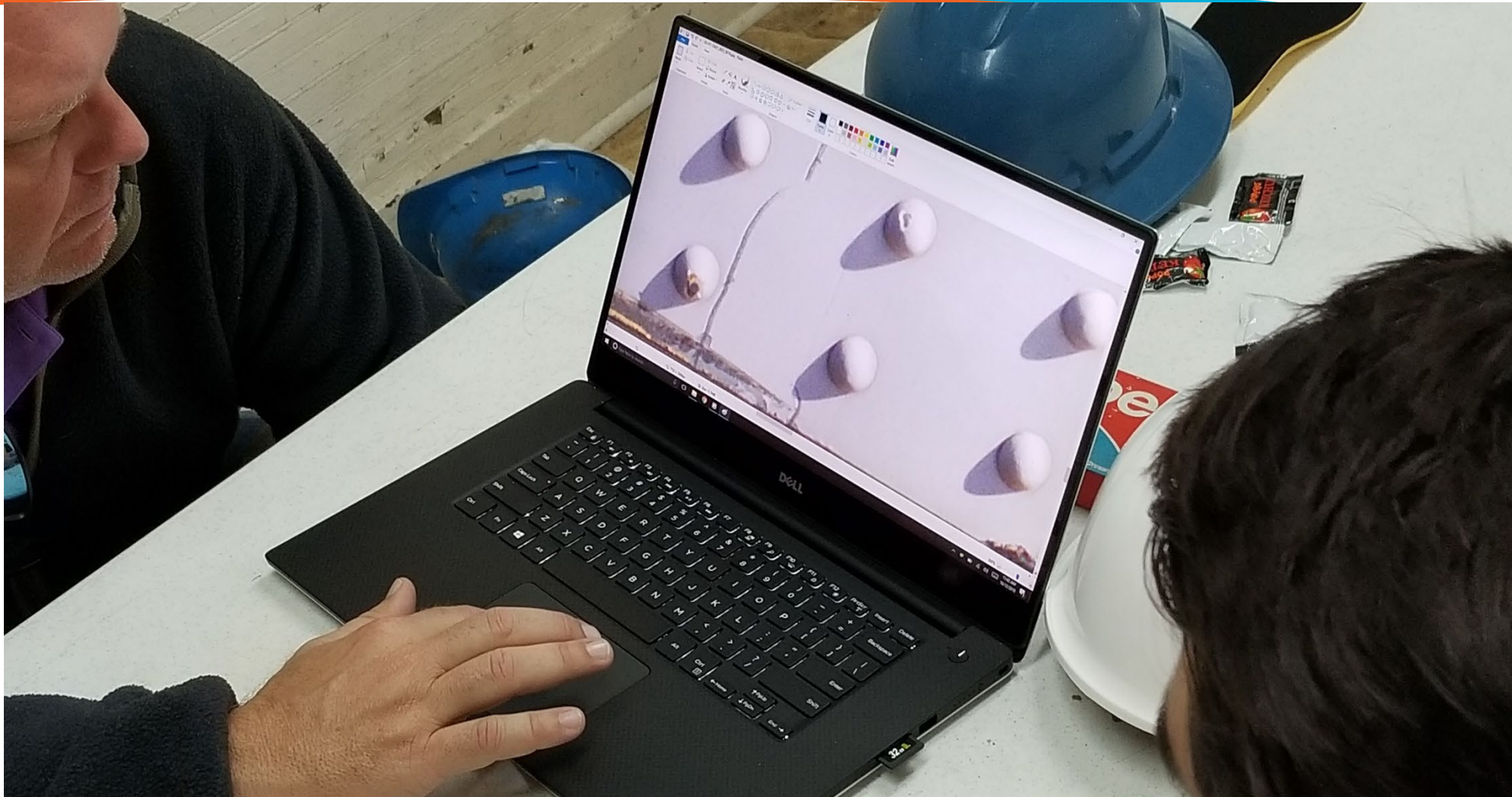




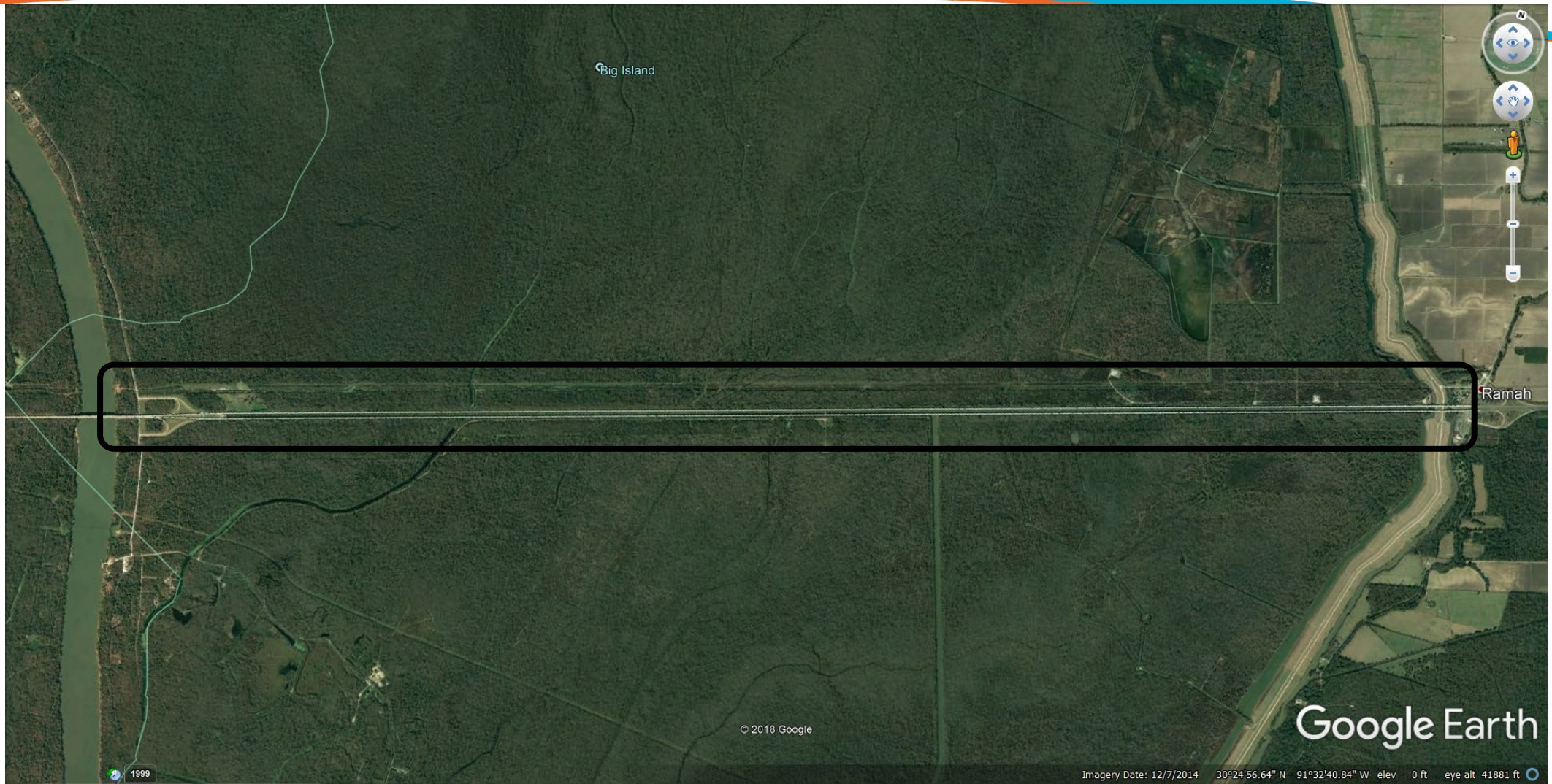
Sunshine Bridge Incident



Sunshine Bridge Incident



Sunshine Bridge Incident



Atchafalaya Basin Bridge











Welsh7Appch

Welcome

Mission: Welsh7Appch

Horizontal Mapping: 14:03, 0.8 ft/pix, 12.1 acres

Add mission block

Updater

Logbook

Options

Help

Fullscreen

Microsoft Hybrid

WARNING INTERACTIVE TAKE OFF GO TO START GO TO HOME HOLD START MISSION RESUME MISSION RESTART BLOCK GO LAND LAND NOW ABORT LANDING EMERGENCY LDG Click 3x

EX-01-12421
212 ft/ATO
217 ft/AMSL
1:07
→ Wpt 82
'Horizontal ...'

W End Rd

30.2435924° N, 92.8367718° W, 21 ft/AMSL, Improved SRTM

Drone: My Albris (EX-01-12421)

Status: → Wpt 82 'Horizontal ...'

Autonomy

Battery	Fight time	Home distance	Link quality	Estimated wind
88 % (11.1 V)	01:06 1 flight (09:09)	594 ft (0:1:32)	100 % (16.0 KB/s)	4.0 kts

Instruments

Temperature	GNSS
Processor: 112.9°F	Satellites: 19 (26.0 dB/Hz)
Air: 61.4°F	Accuracy: 3.878 ft
	Mode: Standalone

Flight data

Ground speed:	7.3 kts	Latitude:	30.2407751°
Altitude:	216.5 ft/AMSL	Longitude:	-92.8368093°

Image/video capture

Number of photos:	0
Number of videos:	0
SD card usage:	32%

Identification

Name: My Albris (EX-01-12421)
Drone Flight Log: EX-01-12421_0052.bb3

Disconnect

GS kts: 7

ALT ft/ATO: 217

Summary

- 25 Unique Flights
- ~3 Hours Flown
- 64 images
- Propeller Protection
- GPS Denied Environment
- Takeoff and landing procedures



UAS Program Contacts

Josh Duplantis
Aviation Technical Supervisor
Josh.Duplantis@la.gov
(225) 379-3049

Jason Ball
Safety and Compliance Officer
Josh.Ball@la.gov
(225) 379-3041

Michael Burrows
Assistant Director
Michael.Burrows@la.gov
(225) 379-3045

Thanks!

