

# **REMOTE INTELLIGENCE**

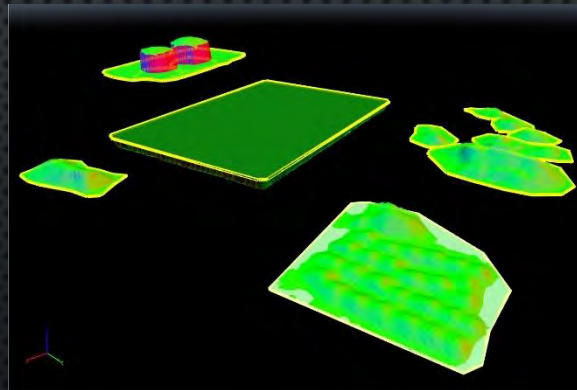
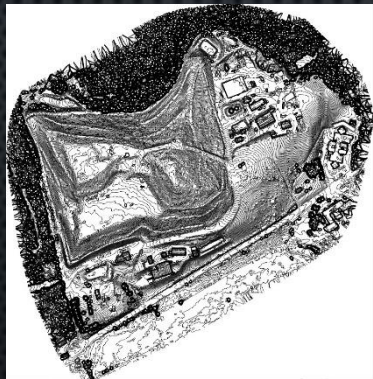
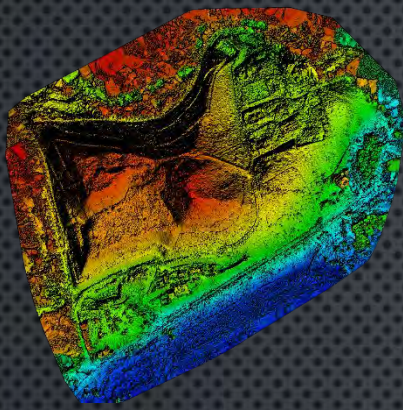
UAS- Systems Anatomy





# UAS APPLICATIONS FOR ENVIRONMENTAL PROJECT MAPPING, MONITORING, THERMAL IMAGING & MORE

UNMANNED AERIAL SYSTEMS –  
DRONE TECHNOLOGY





# REMOTE INTELLIGENCE:

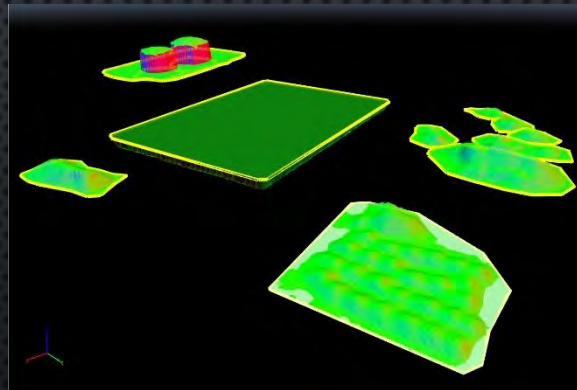
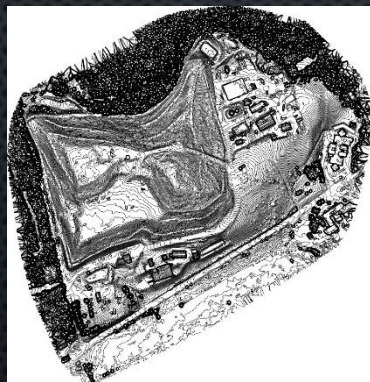
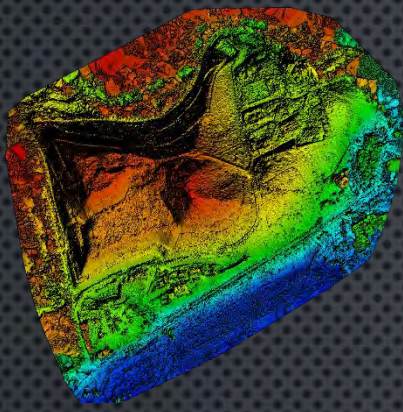
\*WILDLIFE BIOLOGISTS

\*LAND PLANNERS

\*GIS TECHNICIANS

\*LICENSED PILOTS

\*4 YEARS IN BUSINESS





# REMOTE INTELLIGENCE DIFFERENTIATORS

- Fully insured to industry standards
- FAA approved
- Industry longevity and experience
- Highly Trained
- High Resolution 3D Mapping Capabilities
- Thermal Infrared Technology
- Strategically Located
- Ethically Conscious





# UAS (DRONE) TECHNOLOGY IS USEABLE



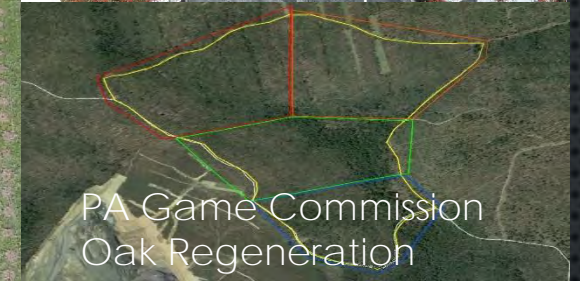
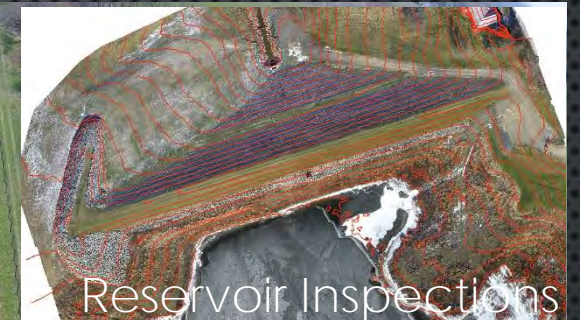
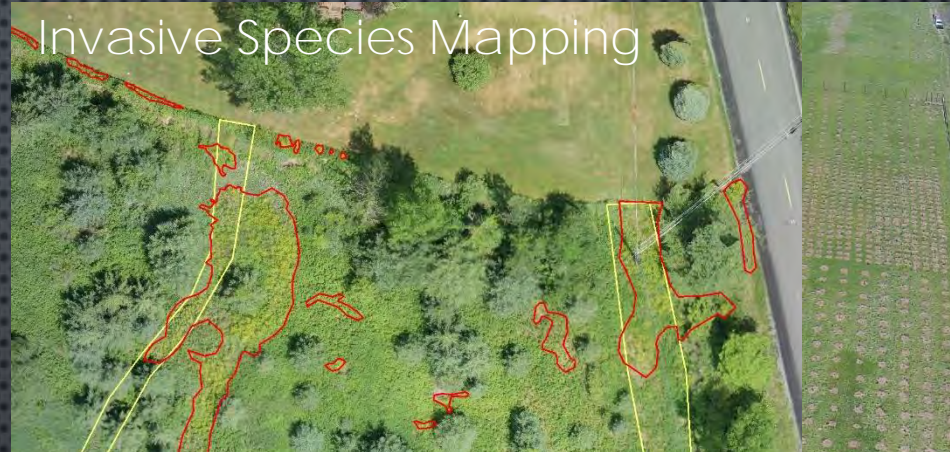
- UNMANNED AERIAL SYSTEMS HAVE MATURED



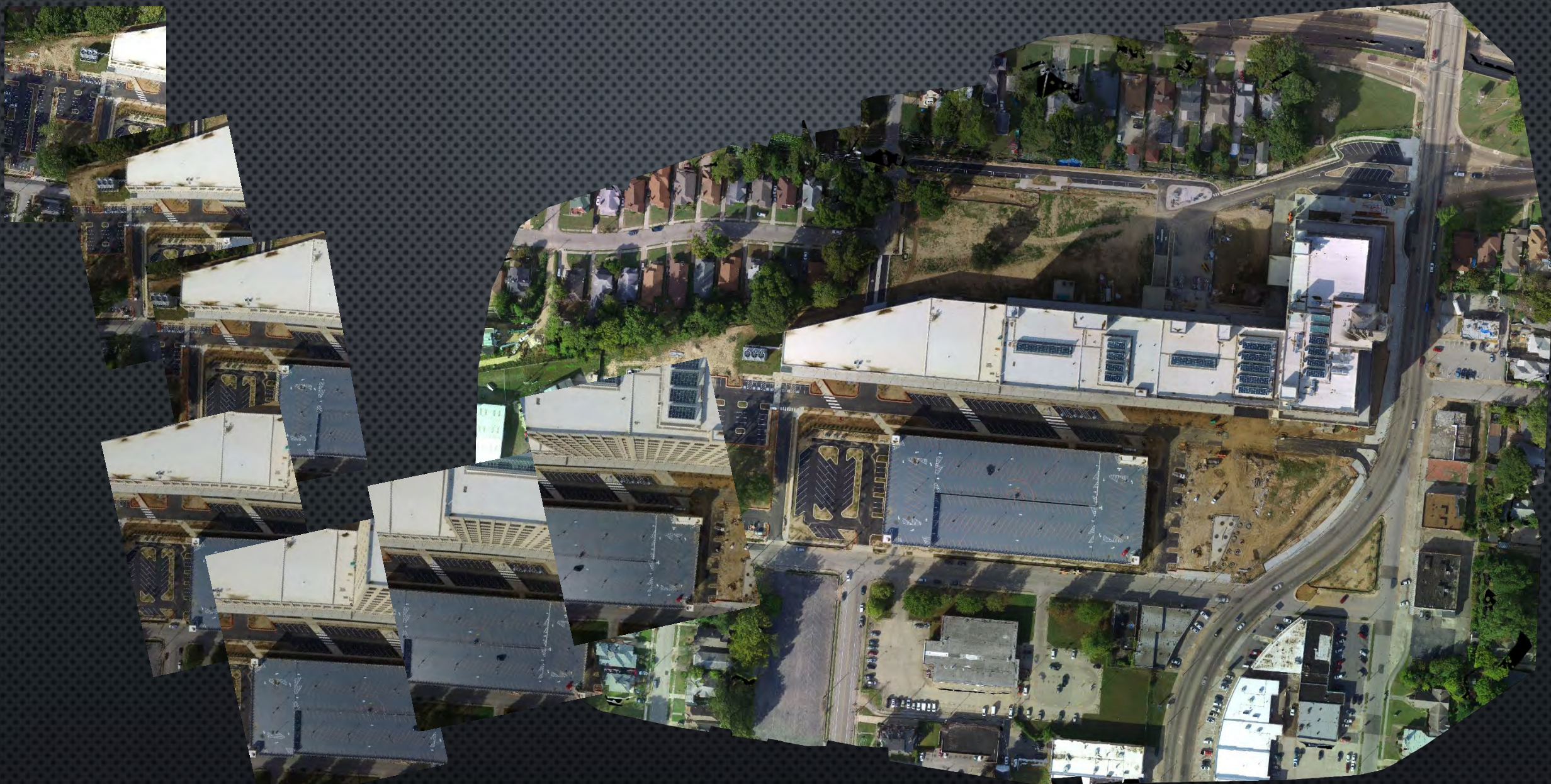


# PROJECT TYPES

- SENSITIVE HABITAT DELINEATION
- INVASIVE SPECIES MAPPING
- ENDANGERED SPECIES MAPPING
- ENVIRONMENTAL CONTROLS MONITORING
- AS-BUILTS
- FACILITY INSPECTIONS







Crosstown Arts Academy (Sears conversion)-  
Memphis TN





River Silt Processing

### Bound Brook Stockpiles (Volume is in yd3)



Prepared By: **REMOTE INTELLIGENCE**

Prepared For: **KTF Associates, LLC**  
Land Surveying Group

0 50 100 200 Feet  
3/8/2017







Liberia, West  
Africa  
Medical Mission  
Report to  
Donors





Donors get confirmation





Alaska Fish & Wildlife Mapping







Prescribed Burn- Rice Fields in Cash, Arkansas





Brookhaven Landfill, Long Island NY



# ESRI MUG 2017 at the Universities of Shady Grove, Rockville MD



Group MUG Shot





# WHAT WE'LL COVER

- TYPES OF UAS
- ANATOMY OF A UAS
  - FRAMES
  - PROPS
  - MOTORS
  - ECM
  - FLIGHT CONTROLLER
  - GPS



# TYPES OF UAS

- FIXED WING

- LONG FLIGHT TIME
- TYPICALLY SINGLE PROP
- LARGER SIZE
- HAND LAUNCHED OR LAUNCHER





# TYPES OF UAS



- MULTI-ROTOR

- SHORTER FLIGHT TIME
- HOVER
- MORE EXPOSED PAYLOAD
- VERTICAL TAKE-OFF AND LANDING





# TYPES OF UAS

- TRANSITIONAL
  - LONG FLIGHT TIME
  - HOVER
  - LARGER SIZE
  - VERTICAL TAKE OFF AND LANDING





# ANATOMY OF A UAS

- FRAMES
  - PLASTIC
  - METAL
  - CARBON FIBER
  - EPO FOAM



# ANATOMY OF A UAS

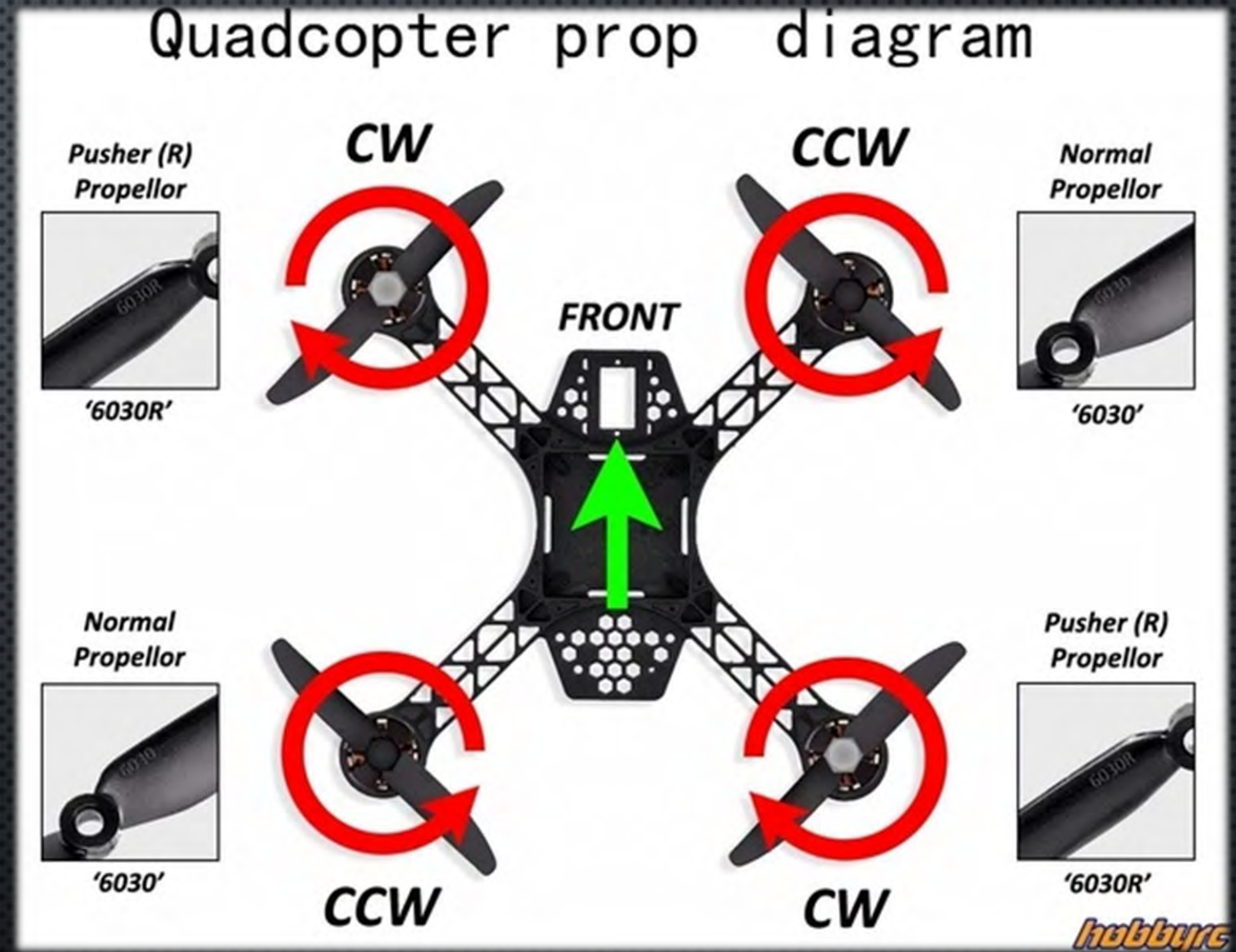
- PROPS
  - PERFORMANCE IS A DIRECT RESULT OF DESIGN
    - NUMBER OF BLADES
    - THE DIAMETER
    - HUB DIAMETER
    - THE AIRFOIL SHAPE/DISTRIBUTION
    - CHORD
    - PITCH DISTRIBUTION
    - CONING ANGLE





# ANATOMY OF A UAS

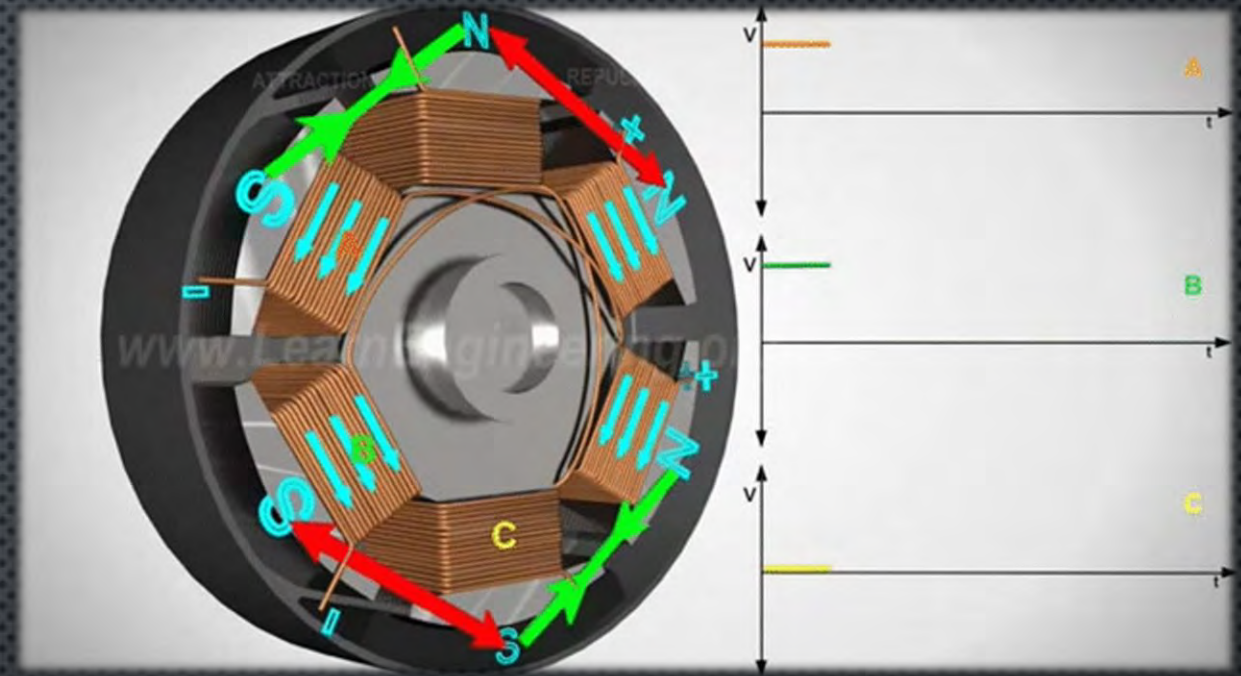
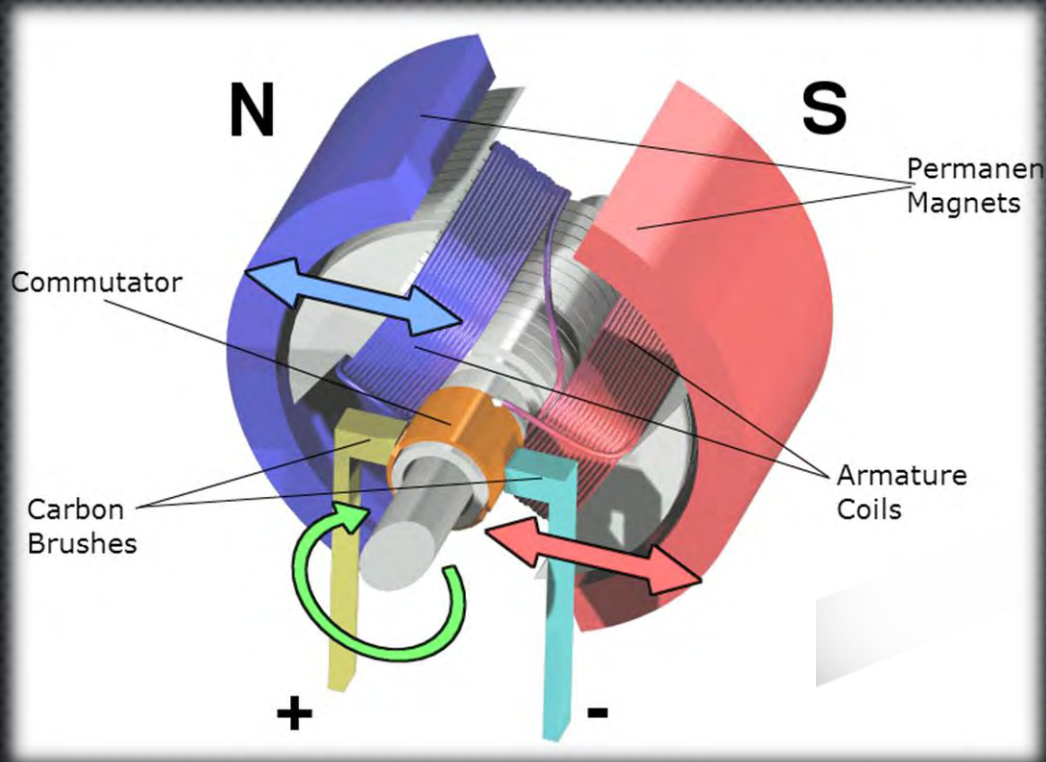
- PROPS
  - PROP DISTRIBUTION
  - PUSHER PROPS- CLOCKWISE ROTATION
  - NORMAL PROPELLER- CCW ROTATION





# ANATOMY OF A UAS

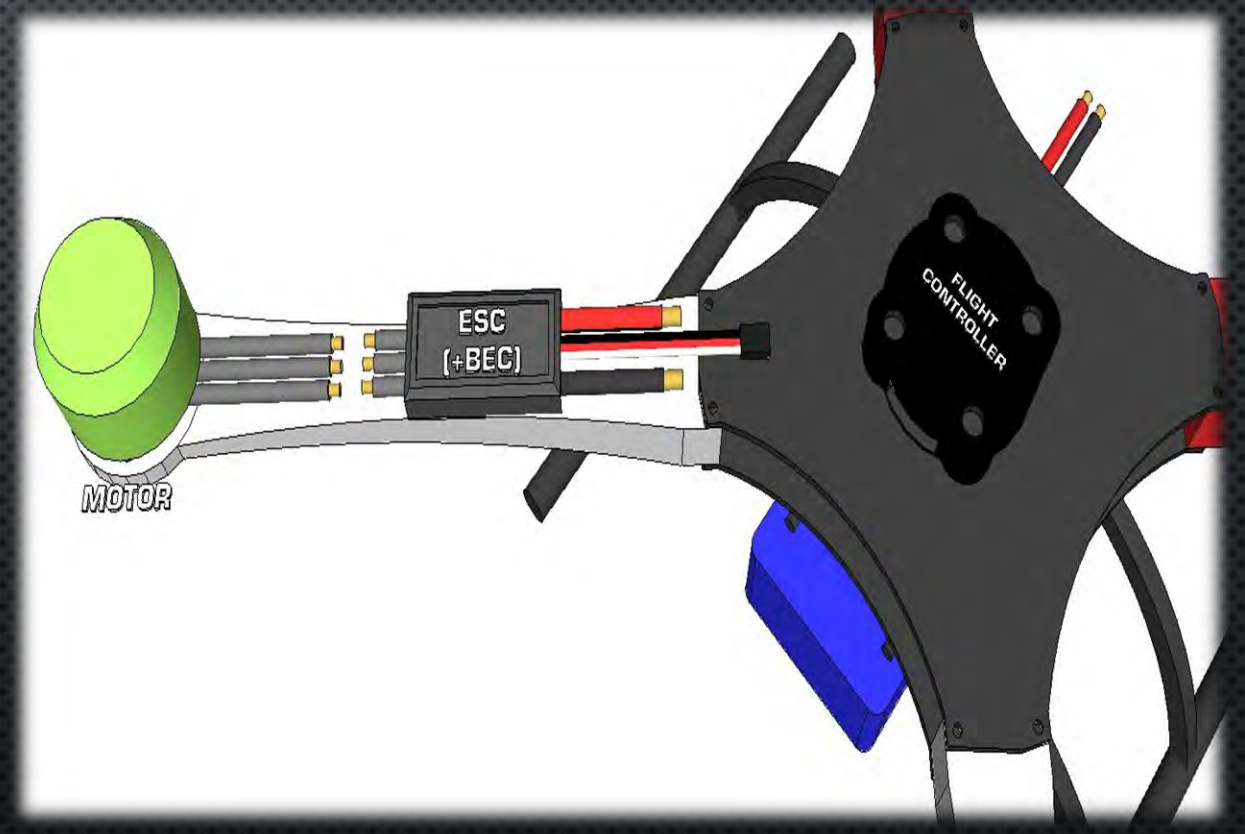
- MOTORS
  - BRUSHED VS. BRUSHLESS





# ANATOMY OF A UAS

- ELECTRONIC SPEED CONTROLLER (ESC)
  - SENDS INFORMATION FROM THE FLIGHT CONTROLLER TO THE MOTOR
  - MOTOR SPEED AND DIRECTION
  - CONSTANTLY SENDING INFORMATION





# ANATOMY OF A UAS

- FLIGHT CONTROLLER

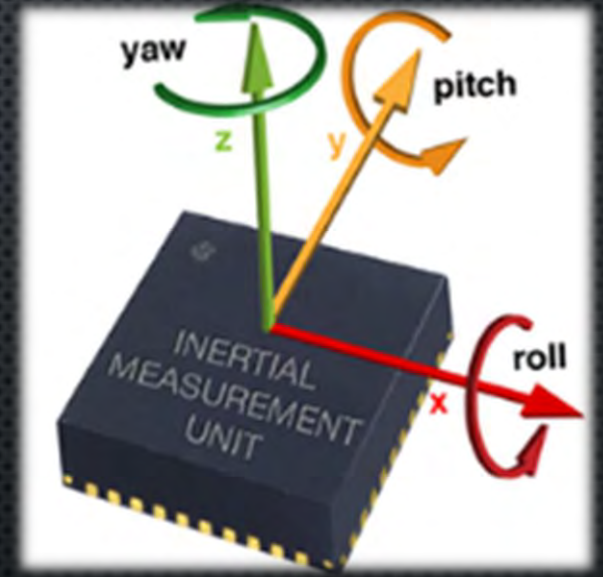
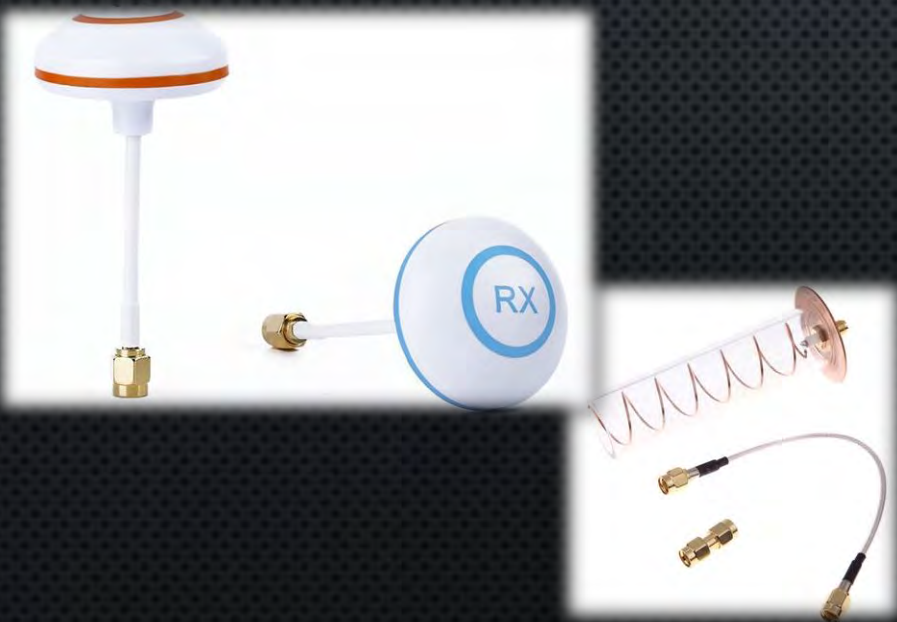
- RECEIVES INFORMATION FROM THE MANY SENSORS
  - GPS, BAROMETRIC PRESSURE SENSORS, AIRSPEED SENSORS, THE LIST GOES ON.
- INTERPRETS MESSAGES
- SENDS CORRECTIVE INFORMATION TO ESC





# ANATOMY OF A UAS

- ANTENNA- FPV, REMOTE CONTROL
- GIMBAL- STABILIZED
- CAMERA/SENSOR
- GPS
- IMU- DETECTS RATE OF ACCELERATION, INCLUDES 6 AXIS GYROSCOPE
- BAROMETER- SENSE ALTITUDE







# POWER UP!





# QUESTIONS?



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