



UAS SERVICES

Master Capabilities



QUANTA AVIATION
SERVICES, LLC



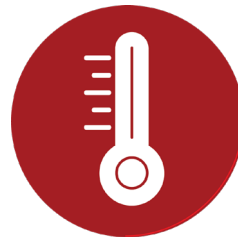
PAYLOAD OPTIONS



VISUAL



LiDAR



THERMAL



CORONA



GAS IMAGING



CANOPY
INSPECTION

Quanta Aviation's UAS platforms have a full array of work methods and payload options fulfill a variety of roles and projects. In addition to multiple imaging and sensor/detecting options, drones can perform a variety of specialty work, including pulling rope, insulator washing, conductor cutting, patrols, and confined space inspections.

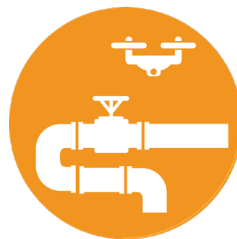
WORK METHODS



ROPE
PULL



INSULATOR
WASHING



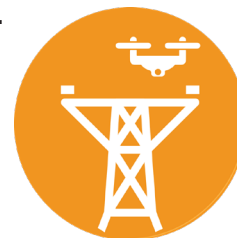
PIPELINE
PATROL



CONFINED
SPACE



CONDUCTOR
CUTTING



PSPS
PATROL



QUANTA AVIATION SERVICES

UAS BVLOS

A BVLOS waiver from the FAA vastly increases the efficiency of drone operations. Under a standard commercial drone license, the aircraft must be visible to the operator or a visual observer with the unaided eye. This limits drone operations to only a few miles before the operations team is required to relocate.



Our UAS inspection services offer a cost-effective and safe solution for scheduled right-of-way inspections, commissioning inspections, and storm patrol.

Quanta Aviation's UAS platform will be equipped with thermal imaging and may be expanded to include LiDAR. Our team of experienced and licensed pilots are committed to delivering accurate and reliable results, ensuring your inspection needs are met with the highest level of professionalism and expertise. We take pride in our reliability and the quality of our services, ensuring that we provide you with the information needed to take corrective action.



QUANTA AVIATION SERVICES

UAS BVLOS

Capabilities

Operational radius from Ops Trailer +/- 30 miles

Traditional drone (visual) radius - 3 miles



Top Speed:
45 MPH

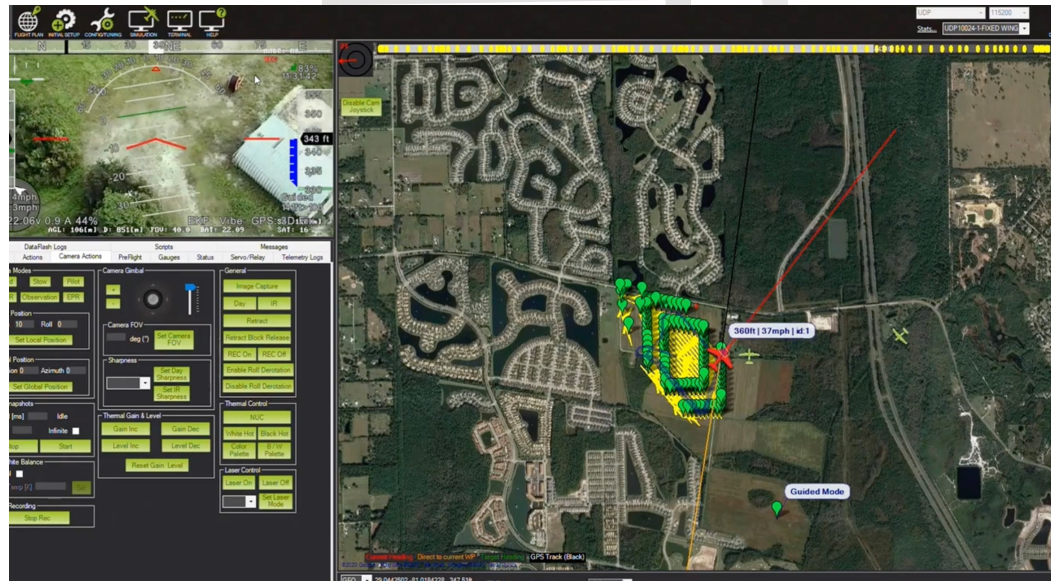


Endurance:
1.2 Hours



Uses

- Patrols
- Damage / Storm Assessment
- Pre / post work assessment
- Thermal inspections
- LiDAR data collection





CONFINED SPACE INSPECTIONS

Confined space inspections (CSI) are evolving, and QAS is at the forefront, transforming how industries approach safety, efficiency, and accuracy. From manholes to tanks, our CSI solution is your ultimate solution for confined space inspections.

KEY CAPABILITIES

Manhole Inspections

- **Enhanced Safety:** Conduct inspections without the need for personnel to enter hazardous spaces.
- **High Precision:** Capture detailed images and videos to identify structural issues and blockages.
- **Time Efficiency:** Complete thorough inspections in a fraction of the time compared to traditional methods.

Tank Inspections

- **Minimized Downtime:** Perform inspections while the tank remains operational, reducing costly shutdowns.
- **Comprehensive Coverage:** Access hard-to-reach areas, ensuring no part of the tank is left uninspected.
- **High-Resolution Data:** Gather clear, actionable data for maintenance and repair planning.

WHY CHOOSE QAS?

- **Cutting-Edge Technology:** State-of-the-art drones designed specifically for confined spaces.
- **Cost-Effective:** Reduce labor costs and inspection times while increasing accuracy.
- **Expert Support:** Receive comprehensive training and support from our team of experts.



Safety First

- **Reduced Human Risk:** Eliminate the need for confined space entry, safeguarding your workforce.
- **Advanced Sensors:** Equipped with collision avoidance technology, Eli's 3 Drone navigates safely through tight spaces.
- **Compliance:** Adheres to industry safety standards and regulations, ensuring your inspections meet all legal requirements.

Versatile Applications

- **Industrial Sites:** Inspect storage tanks, silos, and pressure vessels with ease.
- **Municipal Infrastructure:** Efficiently inspect sewer systems, water treatment plants, and utility manholes.
- **Oil & Gas:** Conduct safe and thorough inspections of pipelines, storage tanks, and offshore structures.

Transform your inspection process with QAS. Ensure safety, enhance efficiency, and gain unparalleled insights into your confined spaces.



UAS THERMAL INSPECTIONS

UAS Thermal Inspections use drones equipped with thermal imaging cameras to detect heat anomalies in electrical equipment, infrastructure, or other assets. These anomalies often indicate issues such as overheating components, energy loss, or structural weaknesses.

KEY CAPABILITIES

Early Problem Detection

Thermal imaging identifies overheating equipment, loose connections, or insulation failures, allowing for timely repairs before failures occur.

Enhanced Safety

Drones reduce the need for personnel to work near high-voltage equipment or climb structures, minimizing safety risks.

Operational Continuity

Inspections can be conducted while equipment remains in operation, avoiding costly shutdowns or service interruptions.

Improved Efficiency

UAS can cover large areas quickly, making it faster to inspect infrastructure like power lines, substations, or solar farms compared to traditional methods.

Cost Savings

Early identification of heat-related issues helps prevent expensive repairs and unplanned downtime, saving resources in the long term.

Versatility

Thermal imaging is effective across various industries, from utilities to construction, allowing for inspections of electrical systems, roofs, pipelines, and more.

Environmental Monitoring

Thermal drones can also detect environmental concerns, such as leaks or hotspots in ecosystems, adding broader value to their application.

By integrating UAS thermal inspections into operations, organizations gain a proactive approach to maintenance, improve safety standards, and enhance overall asset reliability and performance.

Transform your inspection process with QAS. Ensure safety, enhance efficiency, and gain unparalleled insights into your infrastructure.



QUANTA AVIATION
UAS OPERATIONS



LIDAR AND PHOTOGRAMMETRY

LiDAR and photogrammetry allows for the creation of powerful mapping tools for project planning, vegetation management, and risk modeling.

By utilizing BVLOS UAS technology for pre-construction mapping, QAS significantly enhances the efficiency and safety of the project. The ability to capture comprehensive data without requiring manned aircraft or extensive ground surveys reduces operational risks, minimizes environmental disruption, and accelerates project timelines.





QUANTA AVIATION
UAS OPERATIONS



ROPE PULL OPERATIONS

Drone rope pull operations are a cost effective solution to work typically done by helicopters. Covering up to 3,000' linear feet of distance, Drone pulling operation are ideal in difficult to reach or congested areas where a minimal impact is critical.





UAS CORONA INSPECTIONS

UAS Corona Inspections involve the use of Uncrewed Aircraft Systems (UAS) equipped with specialized sensors, such as UV or corona cameras, to detect and visualize corona discharge—an electrical phenomenon that occurs when the insulation of high-voltage equipment is compromised.

KEY CAPABILITIES

Enhanced Safety

UAS eliminate the need for personnel to access dangerous high-voltage areas, reducing the risk of injury or exposure to electrical hazards.

Improved Accuracy

Specialized sensors provide precise detection of corona discharge, identifying potential weak points in electrical infrastructure before they escalate into serious issues.

Cost-Efficiency

Early detection of defects reduces repair costs and prevents costly downtime by allowing proactive maintenance.

Accessibility

UAS can quickly reach hard-to-access areas, such as high transmission towers or substations, without the need for scaffolding or bucket trucks.

Non-Intrusive

Inspections are conducted without interrupting power flow, ensuring continuous operations during assessments.

Time Savings

Faster deployment and inspection reduce time on-site compared to traditional methods.

By leveraging UAS for corona inspections, organizations can enhance operational efficiency, ensure infrastructure reliability, and promote a safer working environment.



QUANTA AVIATION
UAS OPERATIONS



GAS IMAGING & PIPELINE PATROL

UAS Gas Imaging uses drones equipped with specialized sensors, such as optical gas imaging (OGI) cameras, to detect and visualize gas leaks, emissions, or other anomalies in pipelines, industrial facilities, or environmental settings.

KEY CAPABILITIES

Enhanced Safety

Drones allow for remote detection of gas leaks, reducing the need for personnel to work in potentially hazardous environments or confined spaces.

High Sensitivity

OGI cameras can detect even minute leaks of gases such as methane, propane, or volatile organic compounds (VOCs), ensuring issues are identified early.

Non-Intrusive Inspection

Inspections are conducted without disrupting operations, maintaining system uptime while identifying and localizing leaks.

Cost Efficiency

Early detection of leaks minimizes repair costs, prevents product loss, and mitigates the risk of regulatory fines due to emissions.

Environmental Protection

Rapid identification of gas leaks reduces harmful emissions, supporting environmental compliance and sustainability initiatives.

Broad Accessibility

UAS can easily reach remote or difficult-to-access areas, such as elevated pipelines, offshore facilities, or industrial stacks, without the need for scaffolding or manned aircraft.

Faster Results

Real-time data collection allows for quick decision-making and immediate deployment of repair crews when necessary.

Regulatory Compliance

Helps meet industry standards and government regulations for emissions monitoring and reporting.

By leveraging UAS for gas imaging, organizations can ensure safer operations, reduce environmental impact, and improve the efficiency of their monitoring and maintenance programs.



UAS INSULATOR WASHING

UAS Insulator Washing involves using drones equipped with specialized nozzles and high-pressure water systems to clean electrical insulators on power lines and substations. This innovative method removes contaminants such as dust, salt, and pollution that can lead to insulator failure.

KEY CAPABILITIES

Improved Safety

UAS eliminate the need for workers to climb structures or operate heavy equipment near high-voltage lines, reducing the risk of accidents.

Operational Continuity

Insulator washing can be performed on live lines without the need for power outages, ensuring uninterrupted service.

Cost Efficiency

Drones reduce the need for expensive equipment, such as bucket trucks or helicopters, and minimize labor costs.

Precision Cleaning

Advanced UAS technology delivers targeted, efficient cleaning, reducing water usage and ensuring insulators are thoroughly cleaned.

Enhanced Reliability

Clean insulators reduce the risk of flashovers, preventing outages and extending the lifespan of electrical infrastructure.

Accessibility

Drones can easily access hard-to-reach areas, including high-altitude transmission towers, rugged terrain, and densely populated regions.

Time Savings

Faster deployment and cleaning compared to traditional methods, significantly reducing the time required for maintenance tasks.

Environmentally Friendly

Efficient use of water and non-invasive operations minimize environmental impact.

By adopting UAS insulator washing, utility companies can enhance the reliability of their networks, reduce maintenance costs, and promote safer, more sustainable operations.



UAS CONDUCTOR CUTTING

UAS Conductor Cutting uses drones equipped with precision cutting tools to safely and efficiently sever conductors or wires during power line maintenance, replacement, or removal operations. This method provides a controlled and effective solution in scenarios where manual cutting is hazardous or impractical.

KEY CAPABILITIES

Enhanced Safety

Drones reduce the need for personnel to work near live conductors, at height, or in other hazardous environments, minimizing the risk of injury.

Precision and Control

Advanced UAS technology enables precise cutting of conductors, reducing the chance of accidental damage to surrounding infrastructure or unintended consequences.

Non-Disruptive Operations

Conductor cutting can often be performed with minimal disruption to surrounding lines or equipment, ensuring continuity of service where possible.

Cost Efficiency

UAS eliminate the need for heavy machinery, scaffolding, or helicopters, significantly lowering operational costs.

Accessibility

Drones can easily reach remote, high-altitude, or hard-to-access locations, enabling maintenance in areas where traditional methods are challenging.

Time Savings

Rapid deployment and execution of cutting tasks reduce downtime and streamline maintenance or decommissioning projects.

Versatility

UAS conductor cutting can be integrated with other drone-based inspections or maintenance tasks, enhancing the efficiency of comprehensive projects.

By leveraging UAS for conductor cutting, utility and infrastructure companies can increase operational safety, reduce costs, and improve the efficiency and precision of their maintenance and decommissioning activities.