Automated Asset Inspections

Workflow
RGB and Thermal Inspection

01

Mission Planning

Create a mission in DJI FlightHub 2 and execute mission with DJI Dock. 3rd party mission planning software also available.

02

Data Collection

DJI Dock will send out drone to execute mission and return to Dock automatically. Once drone lands safely back into Dock, data files will transfer to FlightHub 2 or 3rd party system for user to access data. No SD cards required.

03

Analysis and Reporting

Process data on 3rd party software with machine learning capabilities to detect anomalies. Make annotations and generate report.

04

Create Work Order

Create work order within ERP or CIS systems (such as SAP or Oracle) to fix necessary issues.

Benefits of Utilizing Drones

Accessibility and Cost

• Inspect transmission and distribution lines, substations, and other assets located in complex environments easier than traditional inspection methods.
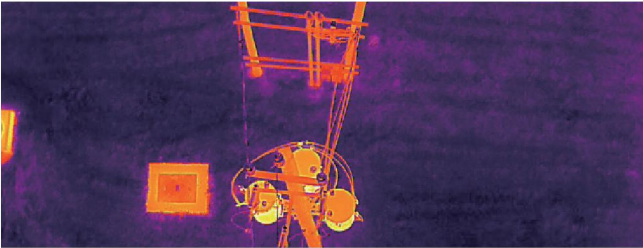

Safety and Efficiency

• Inspect critical structures and components without putting personnel at risk with the drone's zoom capabilities for both visual and thermal inspections. 3rd party sensor payloads also available, i.e. corona discharge detection.

Documentation

• Monitor potential risks and the gradual changes over time to ensure data collection consistency through repeatable automated flight missions.

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Utilities

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Digitalization

Workflow
Asset Modeling

01 Mission Planning

Plan the mission during flight through the DJI Pilot 2 app with live mission planning feature, or use DJI FlightHub 2 to design flight paths for repeatable automated missions prior to flight. 3rd party mission planning software also available.

02 Data Collection

Collect the on-site photos and point cloud data, and transfer the files using SD card for processing.

03 Data Processing

Process data on DJI Terra or 3rd party photogrammetry software to create digital twin.

04 Data Application

Import digital model into internal GIS platform to easily identify assets and surrounding environments.
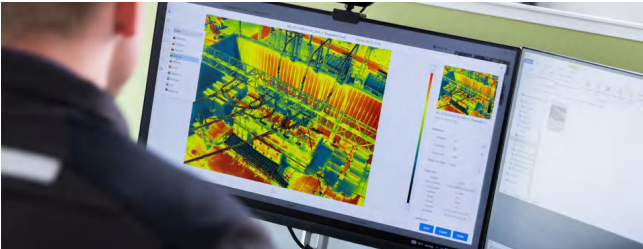
Benefits of Utilizing Drones

Data Quality

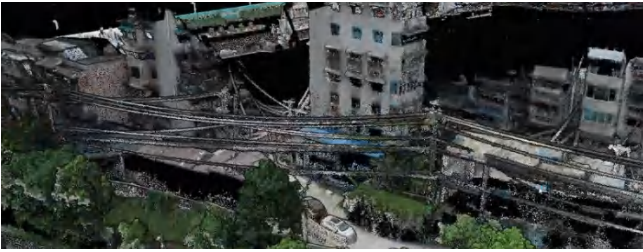• View assets in depth as you would in real life through the digital twin.

Accessibility and Cost

• Teams will benefit from a higher level of detail compared to typical ground or helicopter data collection methods.

Documentation

• Keep GIS databases (such as ESRI or Autodesk) up to date with precision 2D / 3D models and easily plan for future projects.

Vegetation Management

Workflow
Vegetation Encroachment Inspection

01 Mission Planning

Plan the mission during flight through the DJI Pilot 2 app with mapping mission feature, or use DJI FlightHub 2 to design flight paths for repeatable automated missions prior to flight. 3rd party mission planning software also available.

02 Data Collection

Inspect vegetation encroachments and risks live during flight. Collect the data and transfer the files using SD Card for processing, or upload data on 3rd party software.

03 Analysis and Reporting

Process data on DJI Terra or 3rd party software with machine learning capabilities to detect potential encroachments. Make annotations and generate report.

04 Documentation

Keep GIS databases (such as ESRI or Autodesk) up to date with precision 2D / 3D models and easily plan for future projects.

05 Create Work Order

Create work order within ERP or CIS systems (such as SAP or Oracle) to fix necessary issues.

Benefits of Utilizing Drones

Data Quality

• Teams will benefit from a higher level of detail compared to typical ground or helicopter patrols. Thermal imagery can quickly identify hot spots. Lidar sensors can provide comprehensive data sets. Multispectral data can detect plant health anomalies unseen to the naked eye.

Reduced Risk

• Crews can get a close up view of potential defects without climbing, using a bucket truck, or chartering high cost helicopters.

Documentation

• Monitor the gradual growth or changes on vegetation and calculate potential risks. Ensure data collection consistency through repeatable flight missions.

Other Applications

Workflow
Storm Response / Security Monitoring / Line Pulling

01 Fast Deployment

Deploy drones quickly for ad hoc missions.

02 Fast Analysis

Livestream what the drone sees and make instantaneous decisions.

03 Save Manpower

Reduce personnel and save time by using drones to help pull lines.
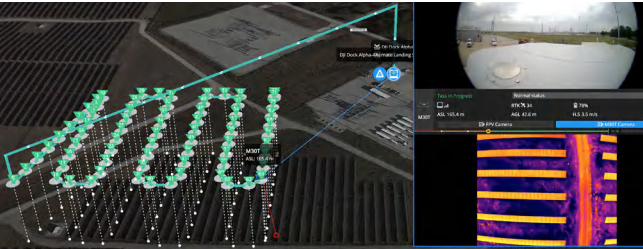
Benefits of Utilizing Drones

Storm Response

• Using drones allow instant accessibility, especially to areas that may be blocked by hazards from the storm. Drones can collect information that can safely speed up reconnaissance and help you send the right equipment and personnel to the right location in order to restore power as efficiently as possible.

Security Monitoring

• Quickly deploy drone from DJI Dock to monitor and identify any intrusions or threats on premise.

Line Pulling

• Drone solution takes 8 minutes while traditional methods can take hours. Personnel can set up the drone with lines from the ground and don't need to pull from the structure.