

MAINTAINING POWERLINES

High-resolution imagery enables desktop inspection of assets

Keeping power on to homes and businesses is dependent on effective monitoring and maintenance of powerlines. With millions of assets and hundreds of thousands of miles of powerlines distributed geographically over millions of square miles, power companies need to optimize their asset inspection. New multi-sensor technologies, such as the Quad 400 system, enable one-pass inspections, reducing powerline asset risks and maintenance costs. Integrated sensors simultaneously capture different data types, spatial features and terrain.



AAM's multi-sensor acquisition systems deliver integrated, georeferenced datasets and the next step change to utilities' network asset and vegetation mapping.

Synchronized sensors

The Quad 400 combines high resolution video and still images, with Infrared (IR) and Ultraviolet (UV) sensors into one acquisition system. As all of the sensors are mounted in the gimbal, which allows the operator to direct the sensors to specific assets or faults, the sensors remain synchronized and geo-referenced with GPS positioning.

This technology convergence delivers the next step change for aerial mapping of infrastructure and assets. AAM employs this technology to help utilities reduce network costs and risk with its powerline asset and vegetation mapping services.

Data acquisition convergence

Multi-sensor technologies are a key component of AAM's powerline aerial mapping services. The aerial surveying teams capture data for a wide range of needs, such as:

- Photographic inspection for vegetation management, easement encroachment and clearance monitoring
- Thermographic, UV and photographic inspection for asset condition and inspection

Multiple applications

From one aerial inspection pass, AAM captures all the data necessary to map network routes, and report on asset condition and vegetation encroachment. This information can be used for:

Visible fault reporting: High definition imagery records asset condition and identifies visible faults.

Corona UV fault reporting: UV imagery detects corona discharge from broken insulators or loose strands to reduce leakage and outages.

Thermal IR fault reporting: IR imagery detects thermal anomalies at structures or mid-span joints to reduce fire potential, leakage and outages.

Asset Records: Georeferenced video and high resolution still photography records all asset details for corporate geographic information systems (GIS).

LiDAR

AAM can add a LiDAR sensor to the Quad 400 setup to provide additional monitoring, including:

Route planning: Terrain shape, existing conductors and vegetation canopy help optimise transmission routes and tower placement.

Vegetation intrusion reports: Line modelling accurately identifies specific vegetation encroachment under various load scenarios and guides optimal tree pruning activities. Automated reports document pruning requirements to vegetation management contractors.

By choosing a geospatial partner that employs the latest multi-sensor technologies, such as the Quad 400, utilities and power companies reduce asset and vegetation management risks and costs. From one aerial inspection pass, AAM captures high resolution images, video, UV, IR and LiDAR—all the data needed for asset condition and vegetation management analysis and reporting.

Find out more: www.aamgroup.com/powerlines.