



**ENERVEN™**

—  
**Remotely  
Piloted Aircraft  
(RPA) Aerial  
Services**

**Stringing**

**Inspection**

**Maintenance**

## RPA Aerial Services - Stringing

### Our Capabilities

**We develop complete solutions to facilitate asset management through the collection and analysis of data, gathering information via Remotely Piloted Aircraft (RPA) technology.**

Using the latest technology our team captures visual and thermographic data for clients, such as mining clients, wind farm operators, utility asset owners, and solar applications, capturing highly accurate data from assets even in difficult conditions such as high-risk environments, extreme winds and high altitudes.

#### Our capabilities include:

- Asset inspection, data collection and interpretation, and reporting
- Still, thermographic and 3D mapping of assets
- Thermographic analysis
- Powerline stringing

Our team of highly skilled RPA operators are also fully trained electrical linesmen, allowing us to inspect an asset, review the data and immediately address any technical issues or conduct repairs while on site.

Our proactive approach significantly increases the integrity of the asset, and results in cost savings to our clients, and higher productivity rates for the operator.

We continuously invest in new technology to improve our service offering, including RPAs with up to two cameras mounted above the aircraft, which enables the capture of both thermal and high resolution images. We are also investigating tethered RPAs, which receive power supply via a carbon fibre extension cord rather than relying on battery life alone.

The cameras in use are state-of-the-art with extremely high resolution and image quality – our technicians are able to identify a 1mm thick burred thread on windmills from images taken 50m from the asset.

#### Technical data:

Drones in use: DJI Matrice 210;  
Fitted one DJI Matrice 210 with PPK (post processed kinematic) technology, producing images with accuracy of GPS positioning within 20mm.

### Stringing Services

Using an RPA for powerline stringing is proving to be an extremely effective solution for both its safety and environmental benefits.

The RPA allows crews to access highly vegetated areas, difficult terrain or culturally sensitive areas with ease. It also removes many of the safety implications, including working at heights, or other hazardous aerial methods, such as helicopters. Compared to other stringing applications, using an RPA is also an extremely cost effective solution.

In addition to this, an RPA is extremely quick to mobilise, therefore reducing project or hazard response timeframes.

Enerven have successfully used an RPA for powerline stringing during the company's response to the Kanagaroo Island bushfires in January 2020.

Enerven use a multirotor aircraft which is capable of stringing a light weight winch rope, with a breaking strain of 1.5 tonnes, making it ideal for supply restoration post bushfire and/or storm events.

#### RPA Powerline Stringing services include:

- Disaster response
- Maintenance repairs in difficult terrain
- New construction sites
- Material transfer
- Midspan support



## RPA Aerial Services - Inspection

**Using RPA technology for inspection tasks now makes it possible to access areas quickly, safely and cost effectively, compared with other asset inspection applications.**

Enerven specialises in aerial inspections using RPA technology, avoiding the need for vehicles or elevated work platforms (EWPs), working at height activities, and land access issues.

As well as achieving greater efficiencies, all Enerven's inspection and thermography work is carried out by CASA certified and trained operators and are also fully qualified electrical linesman, making them experts in identifying asset defects.

Utilising high resolution zoom mounted cameras, our RPAs provide the best possible vantage point from any angle, while maintaining safe clearance zones from your assets.

Enerven can deliver a variety of reporting methods, which can include; a live feed to you, direct reporting into your database, or a desktop report post inspection.

Enerven has extensive experience in the energy sector and has comprehensive safety management procedures, providing a safe and professional team on every project. All our pilots are highly skilled in piloting multirotor aircraft in challenging conditions, including high magnetic and radio frequency (RF) environments, as well as confined and hazardous environments.

### Asset inspection services include:

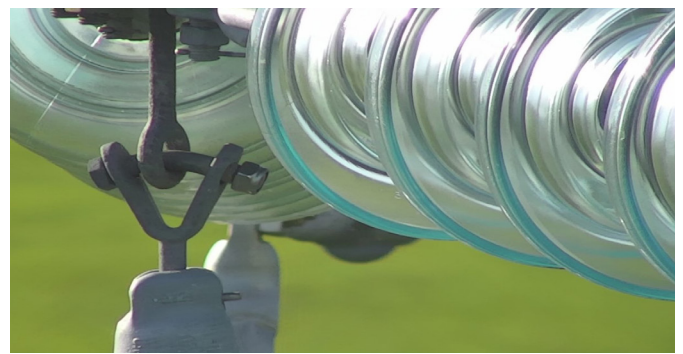
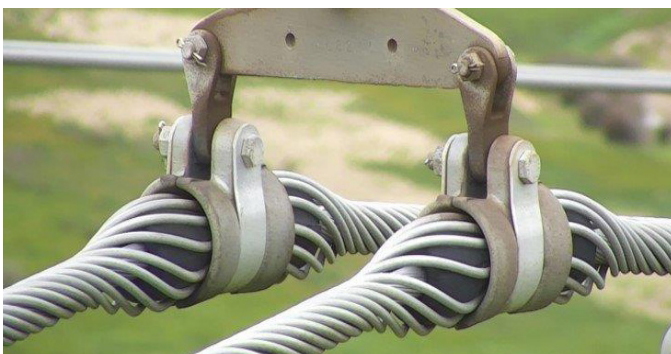
- Distribution Power Networks
- Transmission Power Networks
- Substation Inspection
- RGB/Thermal Inspection
- Solar Farm/Roof Inspection
- Pipeline Inspection
- Wind Turbine Inspection
- Communication Tower Inspection
- Building/Structure Inspection
- Vegetation clearances

### Substation Inspection

RPAs can also be used to inspect substation infrastructure. Our RPAs are able to capture both detailed high-resolution images and thermal images, used to help identify substation condition, vegetation growth and any security breaches.

Having a strong background in electrical infrastructure and with stringent safety requirements, Enerven have developed rigorous and robust safety procedures in accordance with substation infrastructure. We are able to provide detailed conditional reports of substations without personnel or the RPA entering the substation.

Our RPA technology can also enable 'GEO fencing' around the assets, creating a boundary around the substation infrastructure, ensuring the RPA can capture detailed images eliminating the risk of encroaching the boundary.



### Post Disaster Inspection

In South Australia, Enerven has worked closely with the Country Fire Service (CFS) who have granted a permit to fly an RPA during a bushfire.

This provides us early entry to assess damage to assets in safe zones, reporting back to the response team with imagery of access details and asset damage, and also enables preparation for when supply restoration crews are allowed entry into damaged areas.

This efficiency resolves outage times and provides an accurate picture for crew safety and job prioritisation.

### Mapping & Survey

Enerven can provide mapping and survey services using in-house certified surveyors. Our mapping RPA can provide highly accurate corridor mapping and terrain modelling.

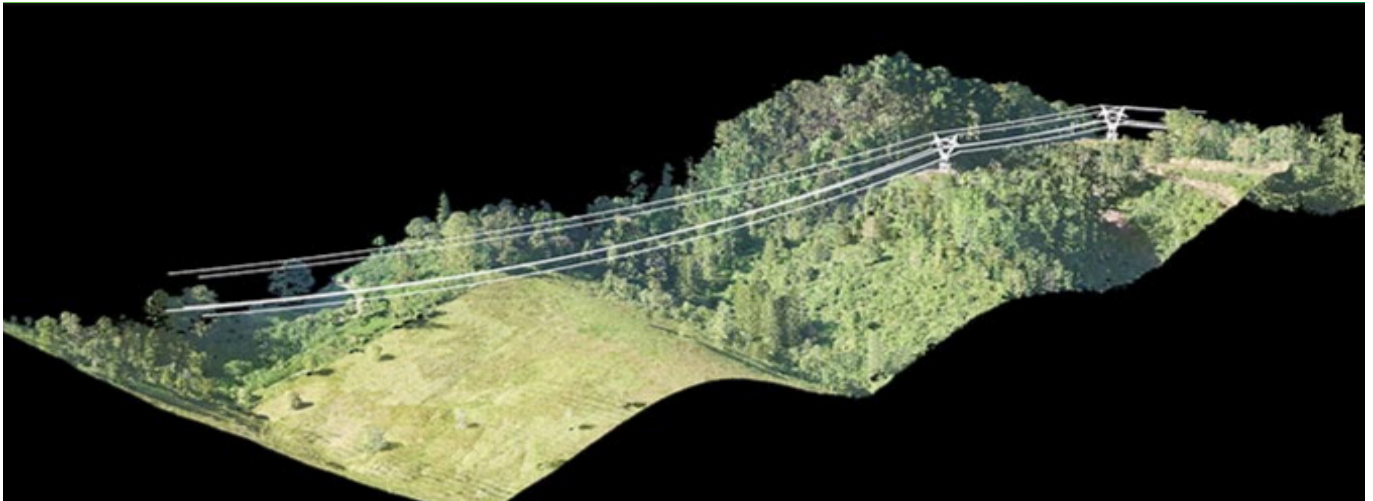
### Additional RPA Services

- RPA water sampling
- Airborne light detection and ranging (LiDAR)
- Virtual Reality (VR)
- Asset modelling

### Why Enerven?

Our experience in the market place, combined with the expertise and industry knowledge of our team, makes Enerven's offering second to none; which is why industry leaders such as ElectraNet, Oz Minerals, Tilt Renewables, AGL and BHP Billiton trust Enerven as a valued partner with their energy infrastructure asset management.

We invest heavily in the best equipment and the professional development of our staff. We combine our experience and history with innovation and technology to deliver solutions that address the evolving utility infrastructure requirements of our industry.



### Who We Are

**Enerven provides construction and maintenance services to clients both within SA and nationally. We believe innovation and technology will continue to drive efficiencies, but no more so than the experience, knowledge and capabilities of our people.**

### Contact Us

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