

**INFRASTRUCTURE SURVEY AND INSPECTION**

## Taking infrastructure survey and inspection to an unprecedented level

Vogel R3D is a revolutionary new service from the surveying experts at Plowman Craven - a UAV-based system enabling the comprehensive surveying of infrastructure to a sub-5mm accuracy.

In a fraction of the time of a traditional survey, Vogel R3D makes surveying items in the most inaccessible areas achievable, reducing risk to health and safety and cutting expensive access costs.

- Live Railway Networks | Bridges and Viaducts
- Waterways and Ports | Highways and Transport
- Renewable Energy | Oil Rigs and Power Stations
- Tower Blocks | Housing | Multi-Story Developments



Our state-of-the-art drone uses a 100MP camera to capture data to a verified sub-5mm accuracy, as well as high-resolution imagery. As one of the few companies in the UK to have Operational Safety Case (OSC) approval from the Civil Aviation Authority (CAA), we are authorised to fly in even the most congested areas of Central London, making Vogel perfect for large-scale urban regeneration projects and multi-story developments as well as highways and transport.



### AT A GLANCE:

- Inspection and measurement survey to sub-5mm accuracy
- Reduced programme times and access costs
- Rapid mobilisation for inspection of assets in difficult-to-reach or hazardous locations
- Latest data capture, processing and modelling technologies

### Benefits of Vogel 3D for survey and inspection:

- Rapid data capture
- Survey grade accuracy
- Increased safety levels
- Inaccessible areas covered
- Reduced manpower requirements
- More cost-effective
- Increased quality and quantity of data gathered
- Comparable accuracy vs laser scanning
- Wide range of deliverables



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### Where can we fly?

Plowman Craven has CAA authorisation to overfly people and property at a height of 25m, as well as taking off and landing from this distance. The basic CAA permission is 50m, which means we are able to capture much higher quality data. All projects are rigorously risk-assessed and conducted in strict observation of all required public safety standards.



### How experienced are our pilots?

All our pilots have completed external training and obtained their Remote Pilot Licence from a CAA-approved training provider. Pilots also complete our own internal training programme in which they are taken through proficiency, emergency handling, theory and ground support training to ensure they are able to fly safely. The programme observes the most stringent health and safety standards, above and beyond those specified by the CAA.

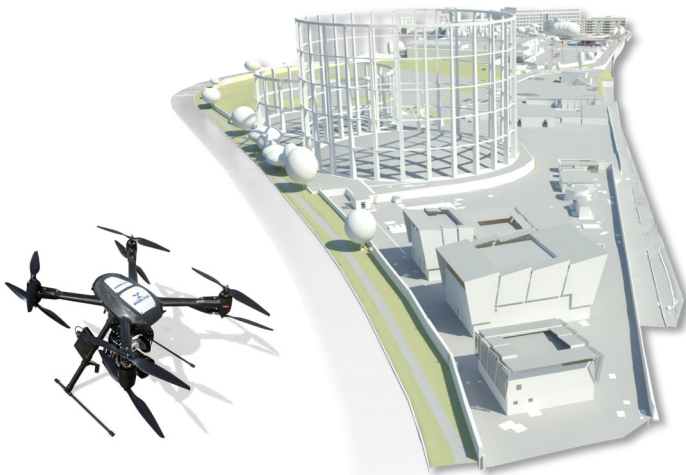
### What about medical safety checks and training?

All pilots hold an EASA Class 2 medical certificate which ensures that they are fit to fly and their eye sight is of a sufficient standard. This is in line with standard aviation practice for commercial airlines. At least one member of every project team will have completed a St John Ambulance Emergency First Aid at Work training. Plowman Craven always operates with an absolute minimum of two personnel on site at any given time – one of whom is responsible for ensuring that the public and nearby properties are not put at any risk.

### What equipment do we use?

Plowman Craven operates its aerial division in the same manner that a commercial charter airline would operate a fleet of aircraft, with full maintenance schedules, procedures and checklists for all equipment.

For infrastructure projects which require high levels of accuracy, we use our own unique Vogel R3D system, combining a high-redundancy UAV platform and 100-megapixel camera with bespoke workflows and software to enable the extraction of sub-5mm survey data.



### For further information please contact:

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### About Plowman Craven

Plowman Craven provides integrated measurement and consultancy services to the property and infrastructure markets, pioneering the use of technical innovation to deliver proven expertise and trusted results throughout the project lifecycle.

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