

UAVs in PROPERTY & CONSTRUCTION



The use of UAVs is now common-place in the Property and Construction markets where there are a wide range of applications for the use of this exciting new technology.

Plowman Craven's UAV property and construction survey services cover everything from listed buildings and Central London offices to historic Universities and residential housing estates.

Enhanced UAV data is seamlessly integrated into existing workflows throughout the project lifecycle.

Recent projects include:

- **Smithfield Poultry Market**
- **The All England Lawn Tennis Club (Wimbledon)**
- **Finsbury Square**
- **Clapham Park**
- **Royal Brompton Hospital**
- **Tottenham Hotspur Football Stadium**
- **Houses of Parliament**

In addition to the enhanced deliverables provided, significant reductions can be made in terms of manpower requirement, risk of accident, programme timeframe and disruption to site occupants – which ultimately means cost savings for clients.



3D Parametric Model

Why Choose Plowman Craven?

Plowman Craven's highly-trained pilots are certified by the Civil Aviation Authority to operate in even the most congested areas, capturing highly-accurate geospatial survey data and high-resolution imagery from even the most challenging or inaccessible location - in a fraction of the time taken by traditional survey methods.

- **More Value** - more and better data capture with a wide range of deliverables
- **Less Risk** - improved safety with easy access to rooftops and difficult-to-reach locations
- **Less Time** - shorter programmes and rapid data capture
- **More Qualified** - CAA authorised with highest permissions
- **More Coverage** - Ability to fly in congested areas, including Central London



Measuring and surveying solutions:

- Structural & condition surveys
- Aerial photography & video
- Topographical & mapping surveys
- Visualisations for planning and Rights of Light
- Conservation & heritage surveys
- Health & safety assessments
- Property Inspections

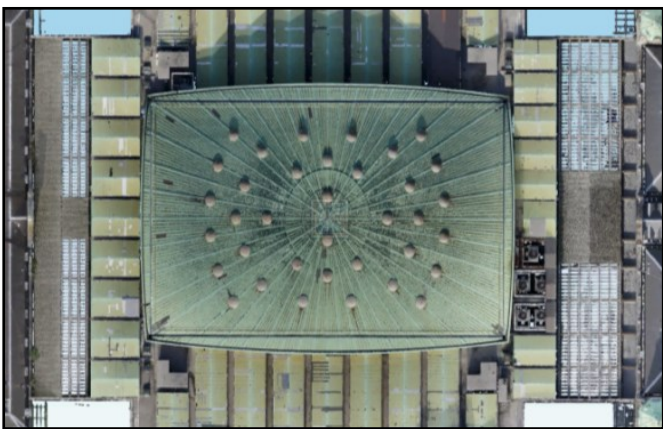
Deliverables:

- High-resolutions imagery
- Interactive 360° panoramas
- 3D point clouds
- Building Information Models (BIM)
- TruView
- Condition surveys

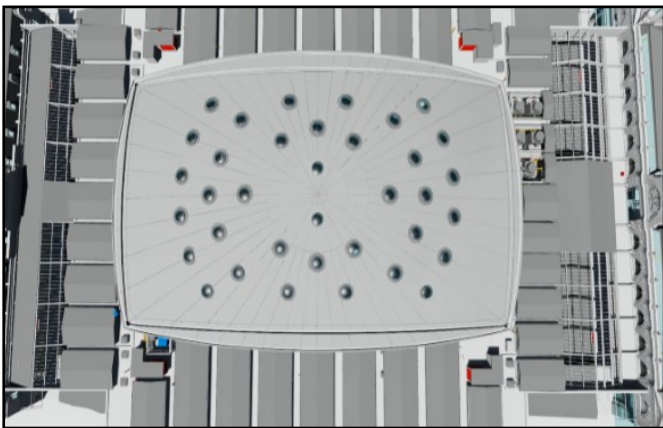
Condition Survey of Smithfield Poultry Market Roof



High-Resolution Image



3D Colour Point cloud



3D Parametric Model

Frequently Asked Questions

Why use UAVs?

UAVs are quicker, safer and more efficient for collecting large amounts of data or for inaccessible and hard-to-reach areas. Using UAVs is more cost-effective and produces a greater depth of information such as high-resolution photography. Crucially, the data produced achieves an accuracy that is comparable to traditional laser scanning.

Where can we fly?

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 use drones in even the most congested areas, including Central London. We are permitted to overfly people and property at a height of 25m, as well as taking off and landing from this distance. All projects are rigorously risk-assessed and conducted in strict observation of all required public safety standards.

How is the data produced?

We use hundreds of overlapping high-resolution photographs as a basis for creating a 3D point cloud rather than a laser scanner - this is called photogrammetry. The data then feeds into BIM workflows enabling the production of 3D models and traditional CAD survey drawings. Before we fly, we install control points on the ground to ensure absolute geospatial accuracy.

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 and hold an EASA Class 2 medical certificate. We always operate with a minimum of two personnel on site at any given time.

What equipment do we use?

We typically deploy the Falcon 8, made by Intel. It's widely regarded as one of the best aircraft in the world and is a lightweight, manoeuvrable octocopter (eight motors) that offers a raft of excellent safety features.

How secure is the captured data?

We are the only survey company in the sector to have been awarded the ISO27001 certification by the British Standards Institution (BSI). This standard covers the provision of data management and security.

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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