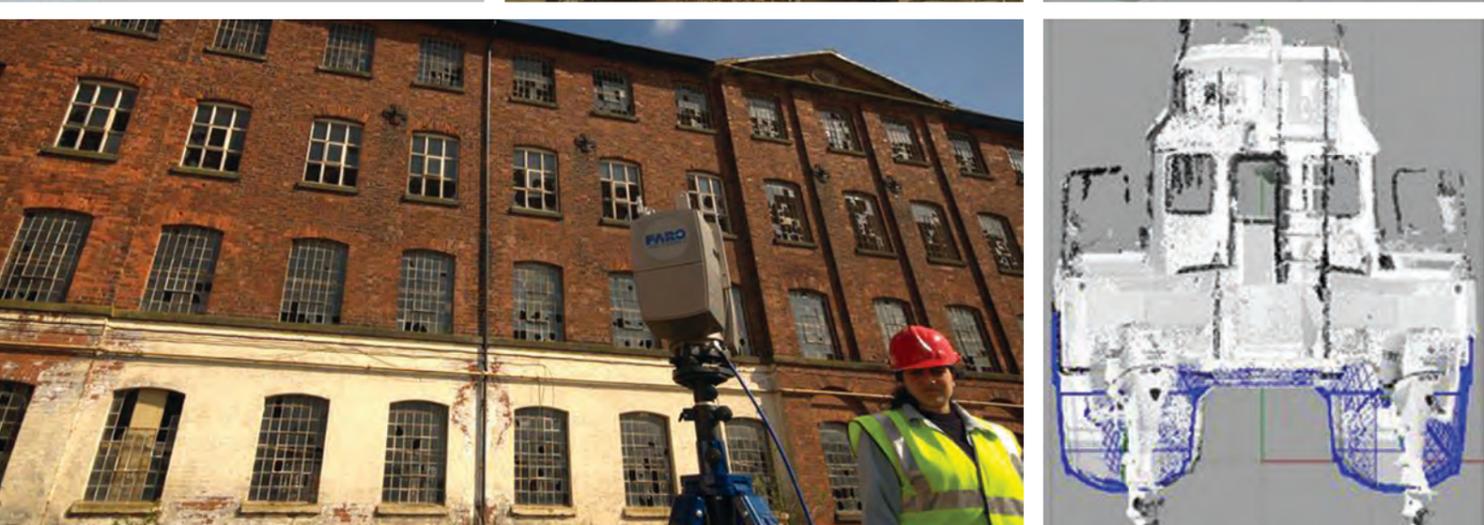
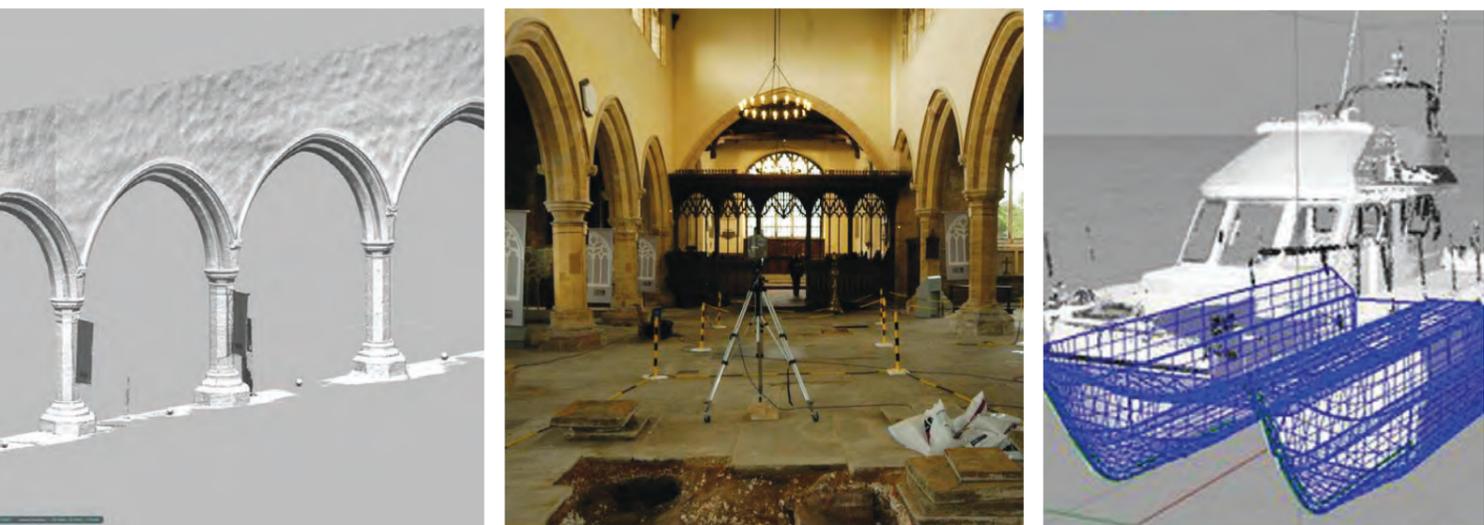
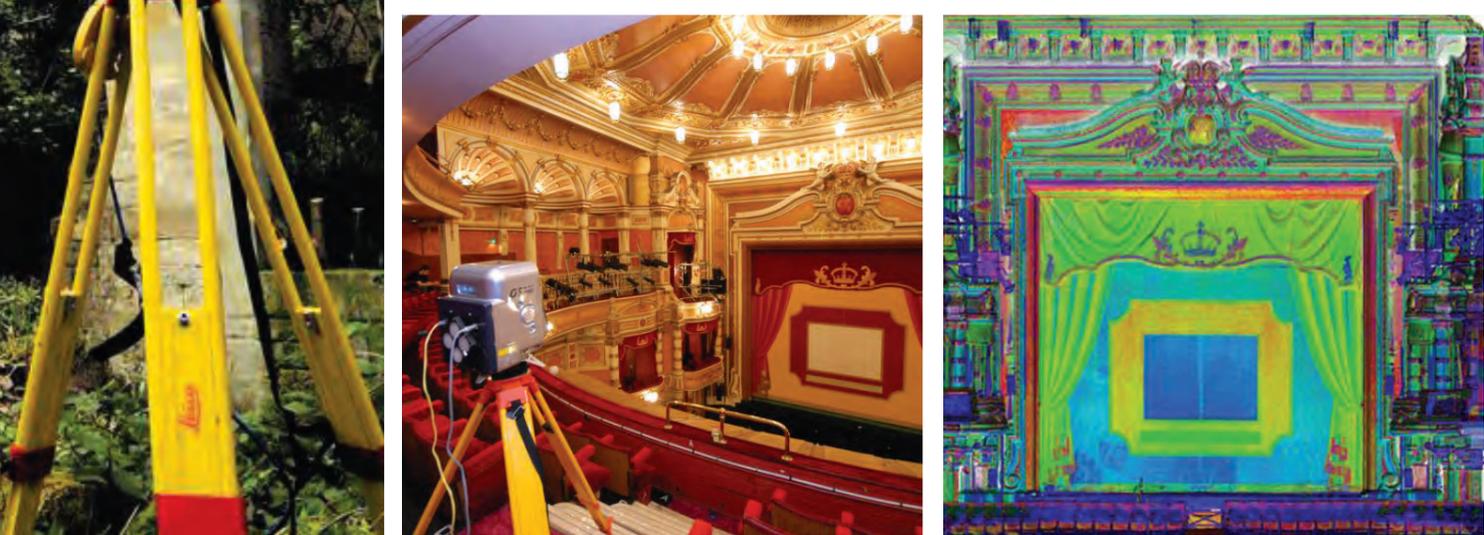




**Quality
Dimensional
Control**



Geo-Spatial Survey Solutions Ltd is a market-leading survey company offering an accurate measuring service using sophisticated electronic measuring equipment to companies and organisations that require precise dimensional data of 3D objects and environments.

Established in 2000, we specialise in being able to cover a large range of structural and mechanical environments.

We have built up a reputation for providing a high quality professional service, and for providing reliable, accurate data. We have a broad client list across many industry sectors including Ministry of Defence, military, heavy engineering, offshore oil, petro-chemical, aviation, ship building, English Heritage, architects, universities, and museums.

Our services are usually carried out at our clients' own premises, or designated locations depending on the nature of the work, such as shipbuilding or archeological artefacts.

We utilise a number of state-of-the-art electronic devices (see pages 3 & 4) for accurately measuring the built environment depending on the size, detail required, the accuracy needed, and the final output. This includes the latest Mantis Vision hand-held equipment which allows us to access and map small and confined environments (see page 3) .

“ From microns to metres...”



Dimensional Control is defined by the The Chartered Institution of Civil Engineering Surveyors as *“those surveying operations that are pertinent to the control of position, size, shape and movement of the built environment.”*

Depending on the industry you work within, you may be familiar with the following terms: *Accuracy Control/Space Management/Engineering Surveying*

Dimensional Control adopts the same process...

The utilisation of 3D co-ordinates within dimensional control to verify structures against a 3D Design CAD model.

Dimensional Control provides a clear and precise overview of the ‘Big Picture’, as surfaces can be inspected and reported on through the use of colour maps and labels stating the deviation from design.

Where there is a precise point-to-point correlation that can be identified, both on the structure and the Design CAD model, we can precisely report the vector errors.

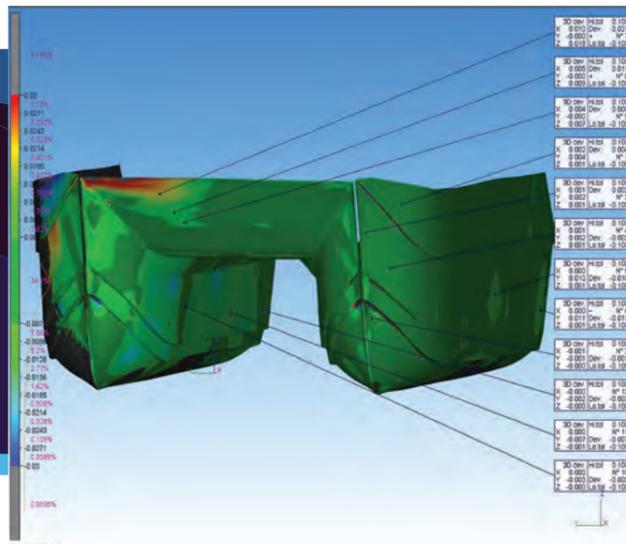
Likewise, surfaces and point-to-point deviations may be illustrated as vector errors showing direction and magnitude.

Data is captured by Total Station, Laser Scanner and Photogrammetry, depending upon the precision and nature of the analysis to be undertaken.

Geo-Spatial Survey Solutions Ltd prides itself on providing its customers with a professional, efficient and accurate dimensional and image measuring service, with a focus on value for money.

Our high quality of service, years of experience, and cutting edge technology allows us to offer a wide range of businesses and industries a wealth of benefits.

- Precise dimensional measurement of objects, people and scenes
- Accurate visual mapping and 3D representations
- Clear and concise dimensional reports
- Training of company personnel in surveying and use of CAD
- Excellent client support
- Time-efficient and cost-effective service
- Work on-site throughout the UK and abroad



Surface Analysis

A laser scanning point cloud image of a catamaran hull, comparing the output to the CAD model surface of the original design.

Deviations between the scan and design are listed labels.



Reverse Engineering

Using a Mantis Vision F6 scanner, it's light and small enough to be operated in hard to access and confined environments, such as vehicle interiors and cockpits, providing accurate and intricate models.

Mantis Vision F6 SMART

The F6 SMART is an outstanding volumetric scanner for field use.



The F6 is the market leader 3D hand-held scanner for fast scanning of big objects and large areas from short to far ranges.

Based on a patent algorithm of innovative encoding F6 SMART provides superb quality of data making it the ultimate device for scanning complex scenes within seconds.

The F6 Smart is operated by Echo, an advanced and easy-to-use integrated software with high-end features such as:

- Advanced scanning modes with real time feedback
- Powerful 3D data editing tools
- Data quality for controlling distances and accuracies
- Flexible integration to 3rd party software based on Mantis Vision DLL, or SDK
- Advanced meshing with full colour projection
- Matching models from different scans
- Multiple interfaces: Tablet / Laptop / VR
- User interface: Touch screen / Desktop



System Benefits:

- IR light enables work in any lighting conditions from complete darkness to day light
- Ergonomic rubberised hand grip
- No scene preparation – geometry is deciphered by the encoding
- 2 layer modes of operation: Static and dynamic
- Accessibility to hidden places
- Hot shoe connection for:
 - Wireless synchronisation of multiple F6 for capturing objects in dynamic motion
 - Flash light
- User friendly – professionals can operate the system after a short training
- Unique design and light weight – suitable for the harsh demands of the outside

Mantis Vision F6 SR

The F6 SR is a superb 3D volumetric hand-held scanner for highly detailed scans of minimal size objects.

The F6 Short Range (SR) is designed especially for accurate and fast scanning of highly detailed small objects, positioned in close proximity.

Based on a patented algorithm of innovative encoding, F6 SR provides excellent quality of data, making it the ultimate choice for rapid scanning.



The F6 SR is operated by Echo, an advanced and easy-to-use integrated software with high-end features such as:

- Advanced scanning modes with real time feedback
- Powerful 3D data editing tools
- Flexible integration to 3rd party software based on Mantis Vision DLL, or SDK
- Advanced meshing with full colour projection
- Composing registration of models from different scans
- Multiple interfaces: Tablet / Laptop / VR
- User interface: Touch screen / Desktop

System Benefits:

- Portable and light weight
- Not limited solely to small objects
- Accurate and fast
- IR light for operation in any lighting conditions
- No scene preparation necessary
- Geometry deciphered via encoding
- Accessibility to hard-to-reach places
- Hot shoe connection for:
 - Wireless synchronisation of multiple F6 devices for dynamic motion capture
 - Flash light
- User friendly – operable following brief training



UK Distributor for Mantis Vision

As a UK Distributor for Mantis Vision, we also sell the F6 SMART, F6 SR, and F6 Add-On colour camera.

For technical specifications, please request a copy of our separate Mantis Vision product brochures.



Versatile Equipment

Light and easy to use, the F6 hand-held scanner provides users with incredible flexibility for challenging and field environments.

Highly versatile for a wide range of industries, including engineering, construction, forensics, aviation, military, and VR game designers.



Exceptional Accuracy & Resolution

Mantis Vision F6 technology easily transforms objects, places, and people into high resolution 3D digital content in real-time.

- Compatible with Windows 7/8/10
- PTS, ASCII, PLY, E57, STL, MP4 output
- USB 2.0 interface

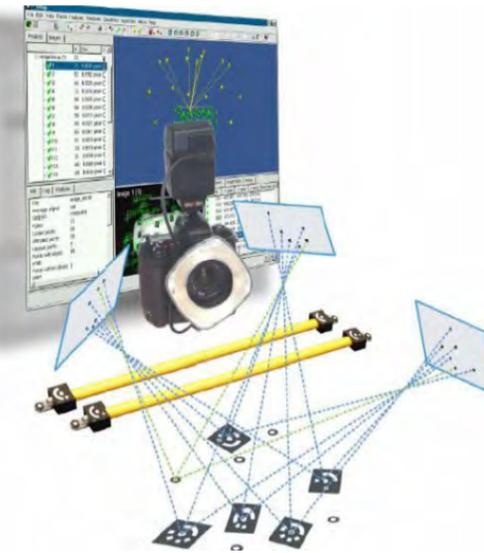
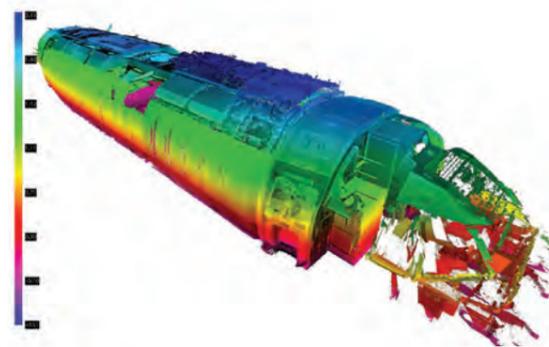


Geo-Spatial Survey Solutions Ltd offers a comprehensive 3D capture, modelling and visualisation service using a variety of state-of-the-art laser scanning equipment.

This service is particularly useful for downstream customers such as archaeology, automotive, marine and architectural.

Registered Point Clouds

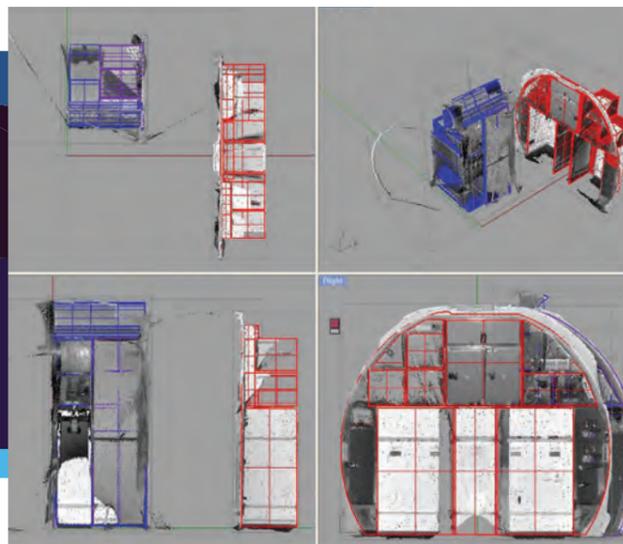
Individual point clouds are brought together into a common 3D co-ordinate system, clearly showing any deviations in the aeroplane's fuselage.



When you require sub-millimetre accuracy, our Tritop Mobile Metrology is the appropriate service as it can deliver an accuracy of 10 microns per metre.

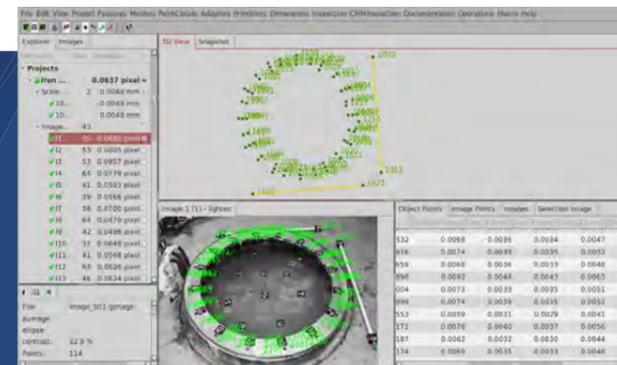
This photogrammetric co-ordinate measuring system provides a series of 3D co-ordinates of pre-targeted points, which can then be used for analysis against a design or used to construct surface models in reverse engineering. It can be used practically within a range of applications.

The Tritop software is also capable of piece-part inspection and deformation analysis.



Deliverables

This image shows a 3D CAD model and the sections derived from the 3D global point cloud. Output data is provided in a number of industry standard formats.

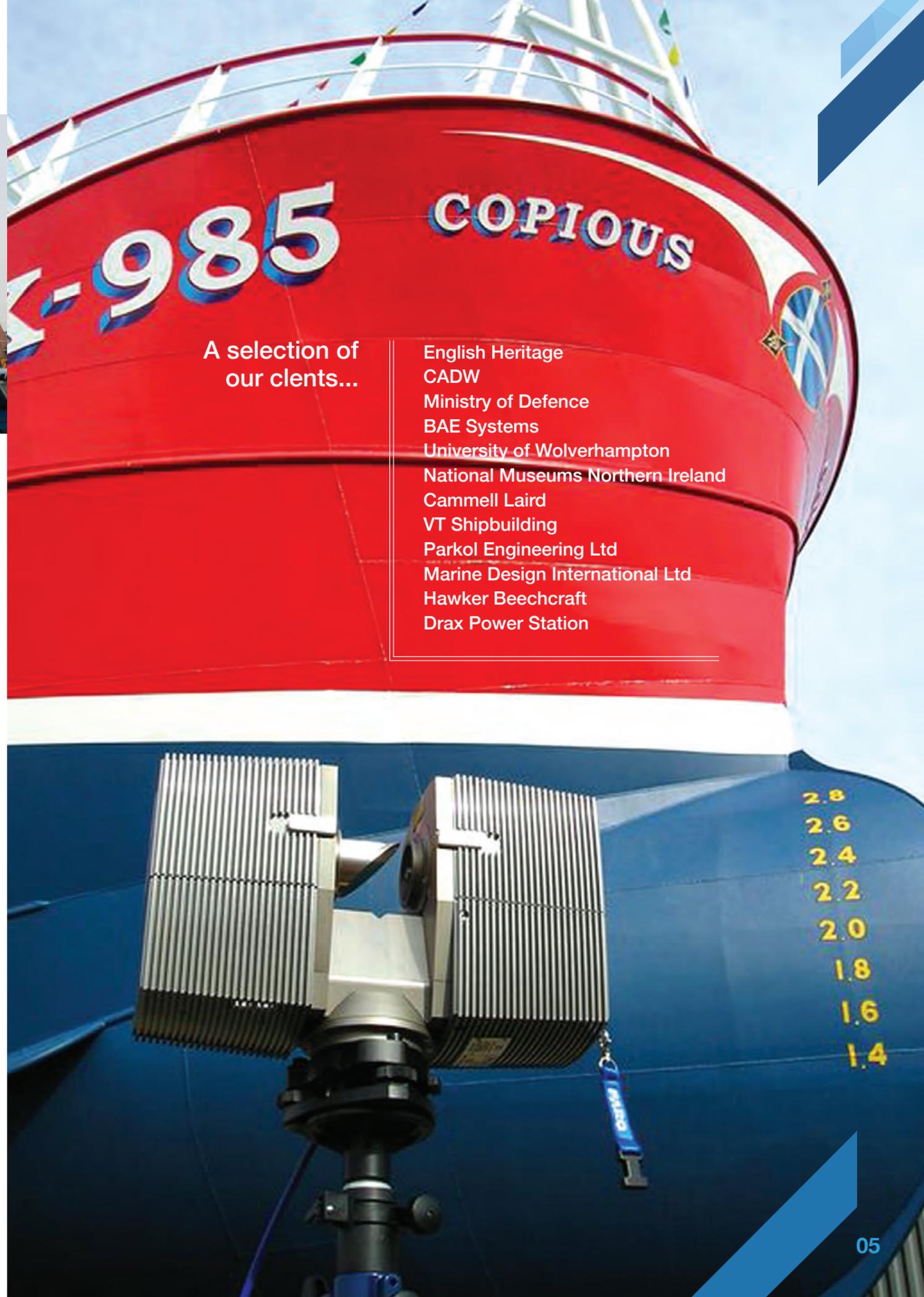


Data Output Example

A flatness survey showing the surveyed points, scale bars and computational deviation of the points in millimetres.

(0.0036 = 3.6 microns)

Historic & National Treasure Scanning



Recently, Geo-Spatial has been privileged to work with a number of different clients at a variety of interesting locations, including Byland Abbey, Craigievar Castle, Howden Minster, Vauxhall Bridge, and the Kings Theatre in Glasgow.

A selection of our clients...

- English Heritage
- CADW
- Ministry of Defence
- BAE Systems
- University of Wolverhampton
- National Museums Northern Ireland
- Cammell Laird
- VT Shipbuilding
- Parkol Engineering Ltd
- Marine Design International Ltd
- Hawker Beechcraft
- Drax Power Station

National Museums Northern Ireland (NMNI)

We provided scans of important carved stone idols at Armagh Cathedral in order for them to create accurate 3D replicas.



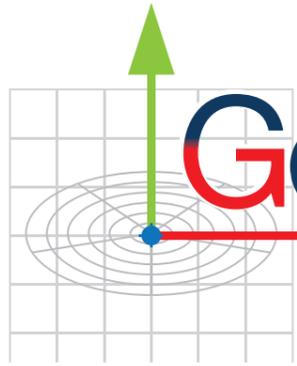
English Heritage

Our team has been commissioned numerous times to provide laser surveys of key sites and structures, as well as a precious sarcophagus.



HMS Victory

We have also had the honour of providing full scans of one of Britain's iconic national treasures, and delivering a precise record of the existing hull timbers as part of an extensive renovation project.



Geo-Spatial

Survey Solutions

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