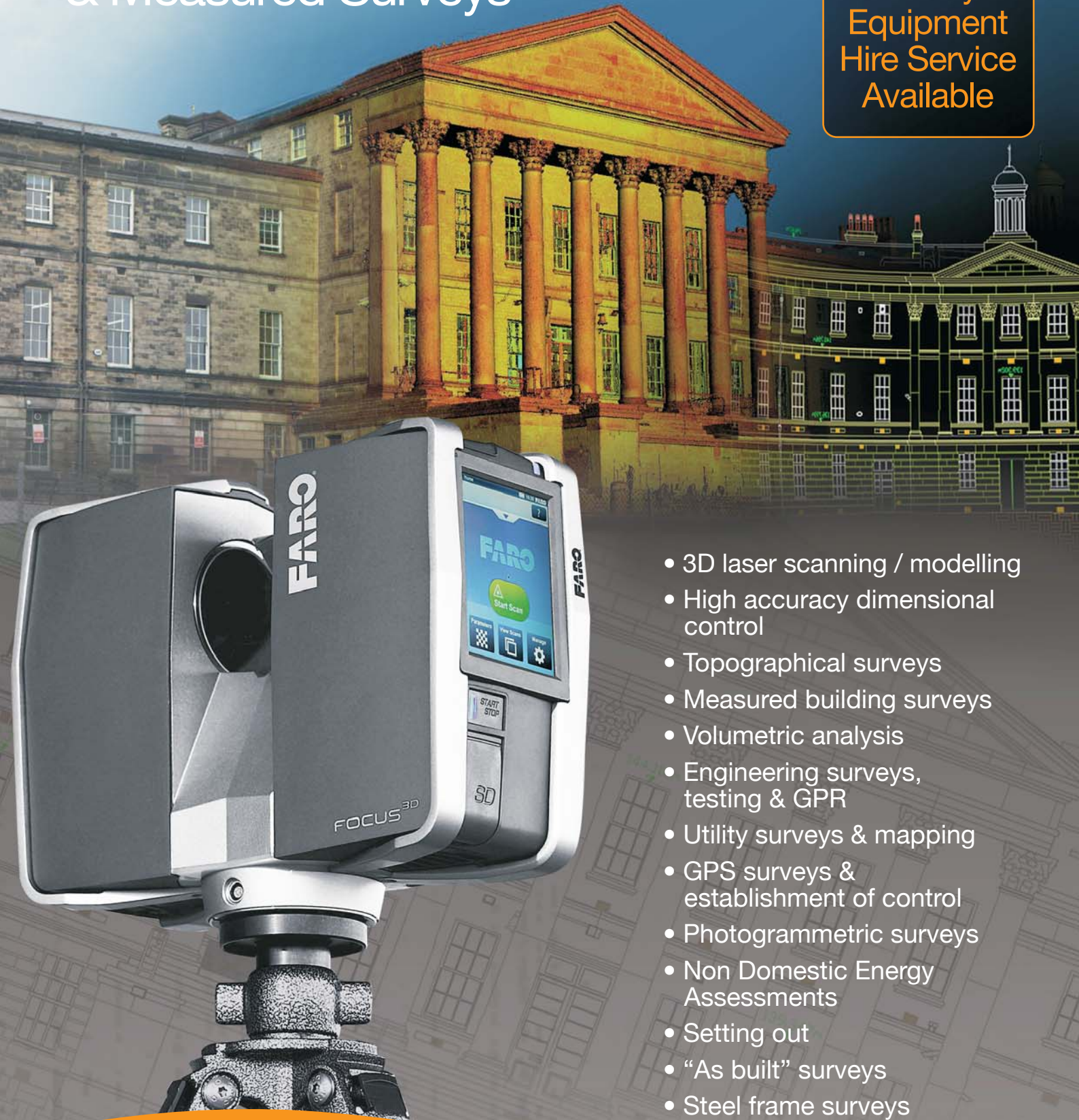
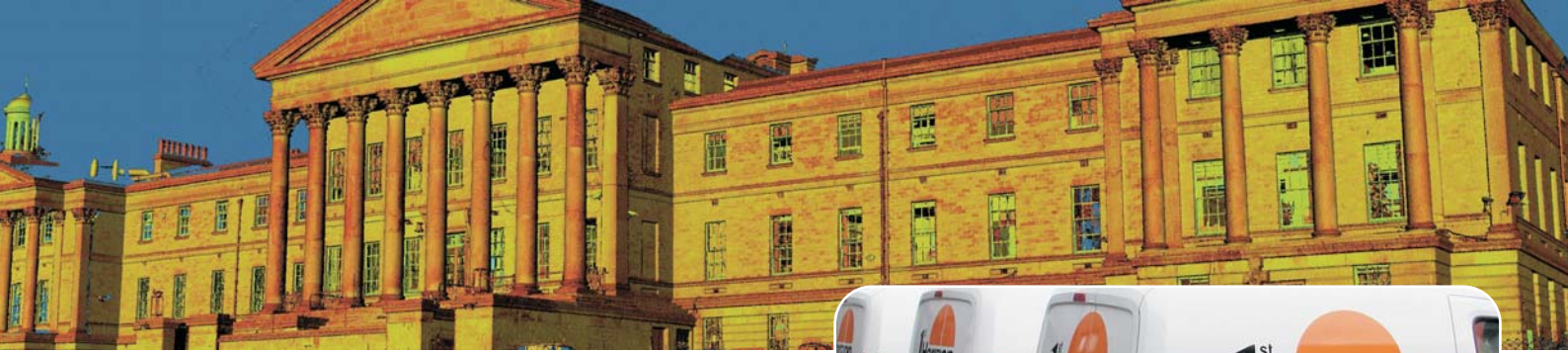


Specialist in 3D Laser Scanning & Measured Surveys

3D Laser
Scanner &
Survey
Equipment
Hire Service
Available



- 3D laser scanning / modelling
- High accuracy dimensional control
- Topographical surveys
- Measured building surveys
- Volumetric analysis
- Engineering surveys, testing & GPR
- Utility surveys & mapping
- GPS surveys & establishment of control
- Photogrammetric surveys
- Non Domestic Energy Assessments
- Setting out
- “As built” surveys
- Steel frame surveys



Company Overview

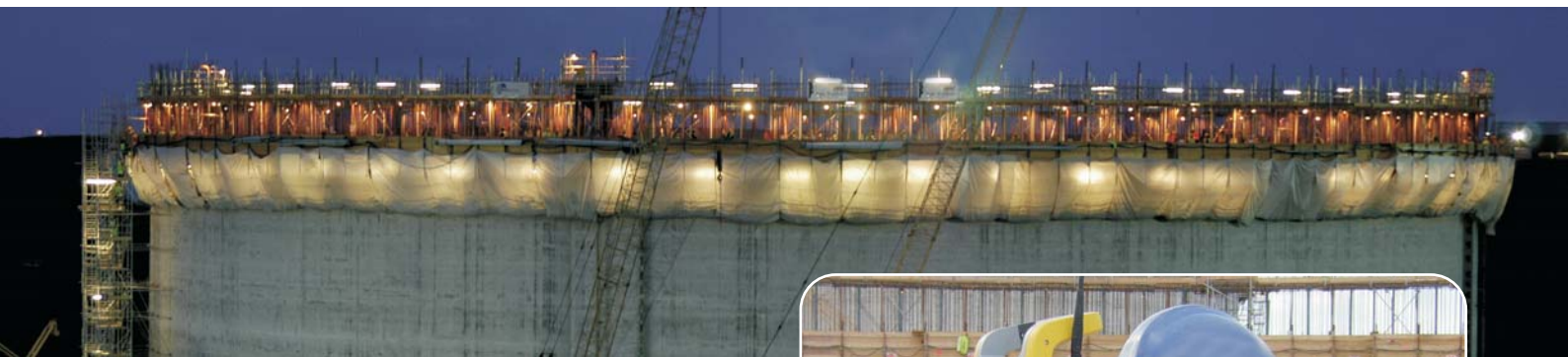
1st Horizon Surveying & Engineering Ltd offers a complete survey, laser scanning, and civil engineering service. We provide expertise for anything from simple reduced level surveys, to detailed laser scans & intelligent 3D modelling.

Based centrally in the UK, 1st Horizon is able to provide both nationwide and global support for construction, design, development and infrastructure

Strong focus has always been placed on the use of the very latest technologies and techniques available. This continual investment in professional development enables us to apply the most efficient, versatile and cost effective techniques to our clients' survey requirements.



Our primary objective is to achieve complete customer satisfaction. This is implemented by our dedication to maintaining the highest quality standards and the level of importance allocated to customer service.....
"Client satisfaction is always paramount".



Business Sectors

1st Horizon is a rapidly developing company. We are continually progressing our organisation into new business sectors & innovative technologies.

We provide services for:-

- Architects
- Consulting engineers
- Civil engineering and building companies
- Environmental consultants
- Local authorities
- Oil & gas industry
- Chemical and power plants
- Renewable energy companies
- EPC companies
- Mining & quarrying sites
- Commercial real estate



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Land Surveys

From basic boundary surveys to complete detail surveys and terrain model analysis; we can cater for virtually all eventualities to meet client demands.

Our surveys are used for anything from early feasibility studies to full scheme development designs and structural engineering exercises.

A combination of RTK GPS systems and robotic total stations are used to produce surveys in the most efficient manner possible. VRS corrections are also used, where appropriate, to greatly increase flexibility and productivity. This is concurrent with a vast reduction in equipment set-up times.

Specifications and requirements can be tailored to each project and are often specified by our clients to ensure that all required elements are recorded. Also this ensures that unnecessary detail is omitted and therefore contract time and customer costs are reduced.

Volumetric surveys are undertaken for cut and fill calculations, quantifying material, or earthworks exercises.



The use of mapping software and Computer Aided Design enables us to produce existing and proposed digital terrain models. These are constructed using both surveyed data and proposed design information. Cross sections and volume calculations can therefore be produced and often several different scenarios are created for the client's consideration.

Data can be presented in a format to suit our clients i.e. digital CAD drawings, paper copies, spreadsheets, film etc.



Measured Building Surveys

All aspects of measured building surveys can be carried out including detailed floor plans, building elevation surveys, Sections, and 3D Modelling / Visualisations. The use of up-to-the-minute techniques, equipment and software is again essential to minimise site time, disruption, and client costs.

Floor Plans

1st Horizon survey teams are renowned for their flexibility and experience when working on sensitive sites (e.g. schools, hospitals, busy offices etc.). In such situations operatives will carry out site works outside normal working hours to accommodate the site specific requirements of each project. A combination of reflectorless total stations, with laser beam sighting, and hand-held laser measures are used to generate floor plans to a level of detail specified.

Elevation Surveys

Client requirements can vary significantly therefore appropriate techniques are selected accordingly. Typical elevation survey formats include simple elevation surveys with key heights for planning proposals, rectified photography surveys often used for visualisations, or full & complete



detail drawings for heritage based projects & restoration schemes.

3D laser scanning can be used for many survey applications, but perhaps the most common is for building elevation surveys. The rapid collection of data allows site time to be vastly reduced. Photorealistic point clouds allow elevation line drawings and 3D models to be produced quickly and easily. 3D visualisations and walkthroughs can also be created.

As with all our surveys, specifications can be customised to the exact requirements of the individual client, ensuring the completeness of the data and avoiding wasted time and costs.



Engineering Services and Utility Surveys

Engineering & Dimensional Control

1st Horizon's experienced engineering surveyors can provide sites and facilities with a framework of high accuracy referenced points on either national or local grid systems. These control networks can be used with absolute confidence for further setting out, as-built surveys, 3D laser scanning control, critical tie-ins, cut & carve operations etc.

For construction based setting out on building and civils sites, personnel are available using total stations, GPS, or digital levels to provide all types of setting out & site engineering supervision. Survey teams are also deployed to verify sub-contractor setting out and construction, as well as general "as-built" surveys.

High accuracy setting out and surveys, using precision total stations, can be implemented particularly in the plant & power environment. Such services are common for critical items such as tie points, cut & carve operations and the first time lift and fit of off-site fabricated items.

Utility Tracing

Underground utility tracing and mapping is carried out as a means of producing detailed underground services drawings. Geophysical techniques including



electromagnetic detection and ground penetrating radar are used to prove the position and depth of services. Collaboration with our topographic surveyors is common place during utility surveys as a means of combining topographic and tracing data to produce drawings.

Specialist ferroskan and concrete imaging surveys are also carried out to detail rebar type, size and spacing within concrete structures. These are primarily undertaken to identify suitable drilling locations and verify the structural integrity of concrete formations. Voids and other anomalies can also be detected using GPR to further assist in the investigation of existing structures.

Other specialist geophysics surveys can be carried out for purposes such as geological investigations, environmental hazard detection, structural assessments and brownfield / landfill site characterizations.



3D Laser Scanning and Visualisation

Our specialist staff have extensive experience in the rapidly developing field of laser scanning. With recent technological advancements we are now able to capture data at a rate of up to 1 million points per second. Dense point clouds comprising of literally millions of co-ordinated points are created in minutes.

The main advantages of this revolutionary technology are:

- Vast reduction of site measuring time.
- Far greater level of detail produced.
- Elimination of return visits (Virtual instead of actual site visits).
- Remote measurement for difficult and dangerous areas.

Applications include:

- Plant, power and process industries
- Asset management
- Monitoring
- Architectural design
- Forensic and crime scene analysis
- Mining & quarrying
- Heritage projects
- Reverse engineering
- 3D modelling
- Film & animations



Our clients are able to take virtual tours of the site from the comfort of their office. The scan data can be accessed via the internet and the photorealistic point clouds can be interrogated and measurements taken as and when required. Once the project data set has been captured the deliverables can be produced in order of priority.

Deliverables include:

- 2D DWG's
- 3D models (basic or fully intelligent)
- Visualisations
- Fly-throughs
- Point cloud
- Panoramic scan views
- Animations

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Based centrally in the UK our services are operational both nationwide and globally.

