



SJ GEOMATICS

GPS - LAND - BUILDING - UNDERGROUND - BIM - SCANNING

S U R V E Y O R S

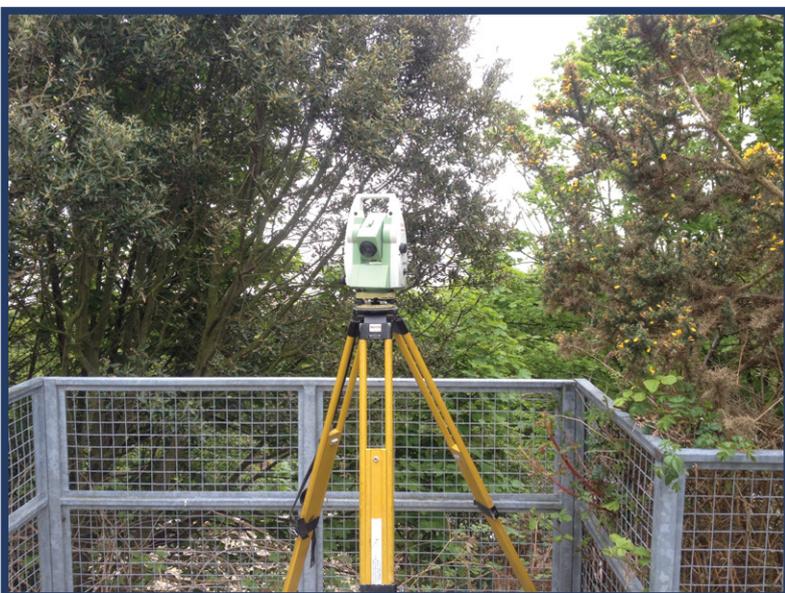
Introducing SJ Geomatics. Steve Jones (Director) is well known within the surveying world having been a Partner and Director in survey companies previously.

SJ Geomatics offer a professional, friendly, cost effective and time sensitive service for architects, developers, project managers, local authorities or any company involved in the building industry. Our equipment is state-of-the-art offering a high level of accuracy. From RTK GPS and RIDGID SR60 Underground Detection equipment to our building survey software & hardware, we can assure our clients of the very best service using the best equipment at competitive rates.

Our services include:-

Topographical

- GPS surveys for flood risk assessments
- Highway surveys showing road markings and signage
- Boundary surveys for conveyancing or disputes
- Site surveys for development
- Landscaping surveys for Landscape Architects
- Tree surveys for use by arborists
- Coastal defence surveys
- Control Networks (PGM)
- Areas
- Volumetric surveys/Cut Fill calculations



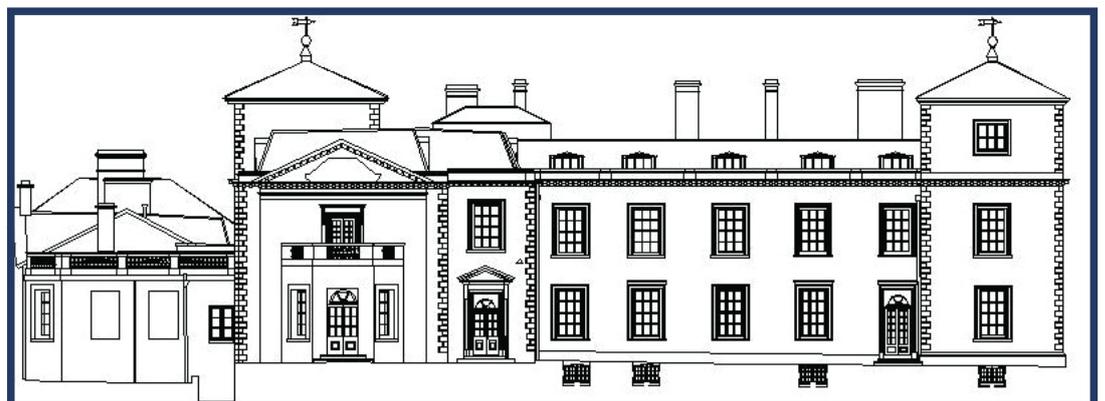
GPS Surveys

- GPS surveys for flood risk assessments
- Boundary surveys which overlay with Ordnance Survey data
- Real-time Setting Out
- Large Scale topographical surveys at a fraction of the cost



Measured Building Surveys

- Scaled floor plans to suit specification and scale
- General Arrangement Plans
- Elevations (Basic or Detailed)
- Street Scenes
- Internal Elevations
- Sections (minimum of 1 in each direction)
- Photogrammetry
- Roof Plans



Underground Detection

- Accurate position of underground services
- Accurate depths of underground services
- Identification of underground services



3D Laser Scanning / Point Cloud Data

3D Laser Scanning offers stunning results for elevations, street scenes, floor plans and panoramic views. Drawn to a high level of accuracy and overlaid with photography, the results are nothing but stunning. See our Laser Scanning section in this brochure.



Setting Out Services / Monitoring

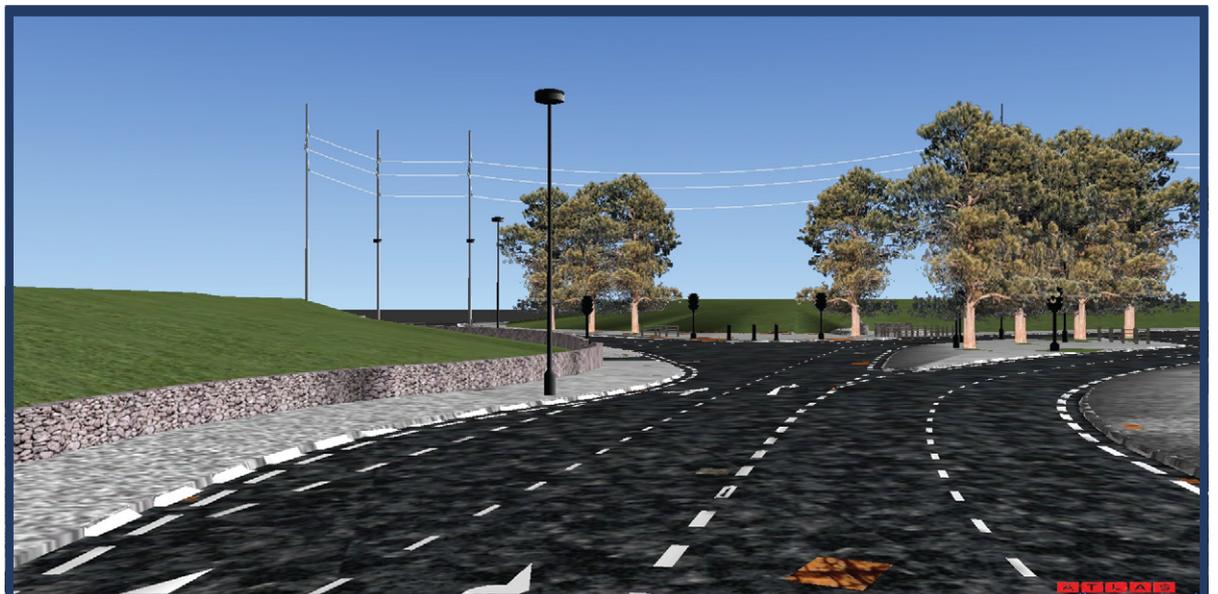
Our engineers are experienced in site setting out. Whether you require positions for piling, plots or roads, we can meet your requirements.

We can monitor coastal defences, buildings for movement or any fixed point using our high specification equipment. Results are issued in the form of reports and referenced drawings.

For daily or half day rates please call or email.

3D Modelling / Fly through

Using our software, we can create 3D models with information extracted from our topographical surveys. These can be viewed with a free viewer and video captures created. Scenarios can be set and recorded, giving clients visualisation from early morning to the sun going down and darkness.



Volumetrics

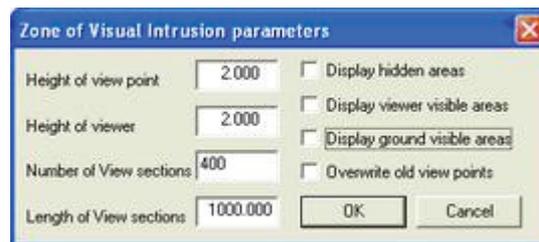
Detailed Triangle Models (DTM) can be used to produce volumes and areas, giving our clients accurate reports. Using our dedicated software we can calculate volumes of spoil heaps, land fill and quarries and produce drawings to show the optimum level to allow the minimum of material removal from site.

- Volumes of heaps/bunds
- Volumes of ditches/land fill
- Cut/Fill calculations
- Detailed DTM reports

ZVI

Creating an access or new driveway? At SJ Geomatics we can project ZVI from any given point at any given height to show what will be visible and what will be blind.

Drawings are issued with lines shown in varying colours to show blind spots and what can be seen.



GIS

Geographic Information System enables detailed logging of specific points as well as mapping. Using a Leica GS20 we offer a GPS mapping solution at an affordable price. GPS 1200 can also be used for extremely accurate results.



HDS Laser Scanning



Architecture +
Construction



Automotive



Railway +
Highway



Mining + Tunnel



Chemistries +
foods



Heritage



Forensic + Accident
research



Large Products



Power plant +
nuclear industry



Petrochemical
industry



Process -
automation



Forestry +
Landscape

Architectural Uses

- As built drawings of Bridges, Industrial Plants and Monuments
- Documentation of historical sites (Heritage)
- Site modelling
- 3D Flythrough
- Highway Redesign
- GIS (Geographic Information System) maps
- Highly Detailed Elevations & Street Scenes
- Floor Plans
- Sections



Industrial applications of laser technologies, such as 3D laser scanning, have revolutionised the planning and construction of surface buildings and other structures. Construction plans, instead of following a traditional construction drawing, are now based on a CAD model calculated from 3D data.

Reverse engineering, the digitalisation of existing buildings, again carried out by applied laser technology, has made this type of virtual construction engineering possible.

Digital building plans of an outbuilding can be easily adapted, allowing the necessary alteration to be made swiftly and efficiently.

As a result laser technology helps reduce construction costs within the building industry and civil engineering, where road construction, canalisation and bridge building are all undertaken with the aid of advanced laser technologies.

Road & Rail

Road & rail construction naturally needs precise mobile measurement systems, like portable laser scanner and measurement devices, which can scan the entire project. Tailor made software solutions can deal with the size of this information.

3D analysis software works with a Laser Scanner to translate data gathered by laser scanning during and after highway construction into point cloud data.

Motorway construction, rail track construction and tunnel systems appear challenging to most measurement systems by the sheer size of the infrastructure alone.

Laser Scanning is ideally suited to work of this kind, as it can operate mounted on a vehicle. Civil engineering further routinely employs portable measurement devices such as the Laser Scanner and Laser Tracker in construction engineering, bridge building, tunnel construction work and urban street construction.



Boats & Yachts

Professional ship construction work everywhere relies on modern 2D and 3D measurement and documentation to ensure continuous high quality boat building, yacht construction & sailboat construction from the drawing board stage to actual manufacture. A previously conceived construction template, designed from measurement data gathered by The Laser Scanner enables precision engineering of all parts of a ship during boat construction.

State of the art laser scanning technology has become indispensable in boat repair as well, allowing for precise alignment and verification. Reverse engineering, where existing models are measured and the data calculated to design an exact construction template, has also become a major constituent of boat fabrication.

Thanks to the possibilities offered by modern measurement technology (tactile and laser technology), any ship anywhere can be duplicated to exact measurement.



Aerospace

Aeronautical engineering, and today, aerospace engineering, have historically placed difficult demands on precision, inspection and calibration during assembly and construction.

Measurement technology, such as a 3D Laser Scanner used in conjunction with digital resources like CAM2 Software, helps manufacturers worldwide maintain excellent standards.

Aviation relies on good quality aeroplane manufacturing, and computer aided measurement aided aircraft construction has been a key feature in improving quality control.

The space engineers of the aerospace industry place notoriously high demands on alignment and metrology, which aerospace manufacturing has met by employing modern measurement technology for aerospace inspection, alignment, reverse engineering and quality control of aerospace components for construction.

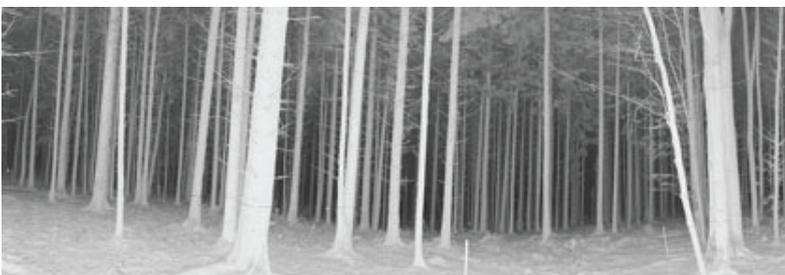


Entertainment

Modern portable 3D measurement technology has become a steady feature in making movies and games. 3D models, obtained from data gathered by a sophisticated 3D laser scanner through a process of digitalisation, allow modern animations to come ever closer towards reality. As directors enjoy the creative freedom possible only in virtual reality, motion pictures today have come to rely on the virtual world in a way that would have seemed unthinkable only decades ago.

And at the heart of this revolution is 3D measurement and modelling technology which uses a laser scanner to translate precise 3D data gathered by this ultra sensitive system into a CAD model that can be introduced into the artificial environment of not only a blockbuster movie, but also a modern computer game.

Technological solutions such as the Laser Scanner have become an integral part of creating virtual reality, called virtuality, in a modern simulation, where the virtual representation is often taken directly from nature by way of reverse engineering



Mining

Inside a mine careful and continuous analysis of the structural integrity is essential to ensure a safe working environment. Laser Scanners have been employed in this field to examine changes in the form of the mine over time. By comparing one scan to another over time and using known reference points and alteration which may imply structural weakness can be seen.

This can assist in the positioning and quantity of the support structures necessary. Through the addition of the colour option as seen in these example scans, the rock strata can be identified and any cracks or fissures recorded. Continuous 3D documentation of the mine area can highlight any potential areas of concern.

By analysing the volumes of the mine from the scans taken the specific quantities of rock can be assessed. This way the mine can conform to the parameters set of how much rock is to be extracted and we can evaluate the optimum amount of explosives necessary.



Forensic & Accident Reports

Gathering forensic evidence at a crime scene or after an accident has occurred, is vital for accident & crime scene investigation. Reconstruction of events leading to the accident or crime is crucial, yet the accident scene needs to be cleared in a relatively short time, and the crime scene often decays before a forensic investigator can complete a thorough forensic investigation.



Forensic tools need to be both accurate and fast. Digital forensics employed both in crime investigation and accident reconstruction, solve the problem by using a laser scan and reverse engineering for speed and accuracy, and for securing evidence for further digital forensic analysis.





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