

STREETMAPPER

The world's most accurate mobile laser mapping system with 360-degree vision.





STREET MAPPING

StreetMapper is a result of a joint venture between UK based 3D Laser Mapping and German guidance and navigation specialist IGI. StreetMapper is a world first enabling the rapid capture of highly accurate 3D laser measurements from a moving vehicle.



3D Laser Mapping Ltd (3DLM) co-developed the StreetMapper system and has been operating it around the globe for four years. 3DLM offers the technical expertise and experience to support new users with all aspects of system deployment, operation and post processing.

3D Laser Mapping is a global developer of laser scanning solutions for sectors such as mapping, mining and manufacturing. 3D Laser Mapping specialises in integrating laser scanning hardware with their own software and peripherals to create solutions at the cutting edge of technology. Through a worldwide network of distributors 3D Laser Mapping is able to provide frontline support and service for a growing international client base. 3D Laser Mapping is also the Riegl Premier Distributor for the UK, Ireland and sub-Saharan Africa and the leading distributor of TerraScan software.



IGI specialises in the design and development of guidance, precise positioning, attitude determination and sensor management systems for aerial survey flight missions. For more than thirty years IGI has been integrating modern technology and expertise know-how to become a world leader with its specialised products.

IGI hardware solutions are offered with perfectly integrated software packages for easy and efficient use. The first company to introduce a flight management system or Computer Controlled Navigation System (CCNS) for sensor flights worldwide the name IGI is now synonymous with these solutions.



These two companies have pooled resources, experience and expertise to create StreetMapper the world's most accurate mobile laser scanning system with 360-degree vision.



What is StreetMapper?

StreetMapper is a dynamic 3D mapping system that uses the very latest laser scanning technology combined with a precision navigation system, advanced data processing software and an innovative system design to scan highways, infrastructure, buildings and vegetation from a moving vehicle.

Who is using it?

Halcrow, UK

Geomaat, Netherlands

Estereofoto, Portugal

Vinci, France

WSP, Sweden

Geodigital International, Canada

Terramatrix, USA

Tecdawn, China

Geokosmos, Russia

State Enterprise Transport and
Road Research Institute, Lithuania

What are the benefits?

- The world's most accurate mobile mapping system providing measurements accurate to within 10mm.
- Employs the world's most accurate navigation technology for a mobile laser mapping system.
- Reduced project budgeting when compared with traditional static surveying techniques.
- Option to configure as a cost reduced one laser scanner system or run two scanners for maximum performance.
- Extremely rapid 3D mapping capability dramatically reduces survey project timescales.
- Unique weatherproof Pod housing option ensures no rain damage to equipment when in use.
- Available as a portable system which can be shipped as check-in luggage and easily assembled worldwide.
- StreetMapper is a mature product with proven performance via a workflow honed over 5 years.
- Peace of mind with our proven global technical support from the world's most experienced mobile laser mapping experts.



StreetMapper 360

Precision Navigation

The onboard navigation system includes a Global Positioning Satellite (GPS) receiver, a fibre optic gyro based Inertial Measurement Unit (IMU) and the latest Direct Inertial Aiding (DIA) to assist in areas of poor GPS reception. StreetMapper is the only system on the market to offer this level of precision navigation, which has been proven to increase the speed with which the GPS receiver gets back to high positional accuracy after a loss of signal by up to 5 seconds.

Multi Sensor Mapping

StreetMapper 360 offers a 360-degree field of view, a range of 300m and a capacity of 300,000 measurements per second per sensor, delivering high precision performance and coverage. The V-Line range of scanners from Riegl combines new, higher performance sensors with internal waveform processing to record unlimited returns per laser pulse and complete digital processing. An integrated high-resolution digital camera can be used to capture either still or video images.

Ease of Use

StreetMapper 360 has a dedicated touch screen LCD display that shows status information and allows the data capture parameters to be adjusted. Operations that require a higher level of skill, such as GPS processing, are undertaken post mission using sophisticated software for processing the collected navigation data, laser survey measurements and camera or video images. StreetMapper 360 also includes mission control and route planning software.

Innovative Design

An innovative lifting sensor platform has significantly improved the protection of both equipment and personnel during installation, use and routine maintenance. The scanners are protected from the elements during operation, can be removed from sight when not in use in addition there is no requirement for personnel to work at height. A modular system, StreetMapper 360 has been proven in environments ranging from the Artic Circle to Singapore.

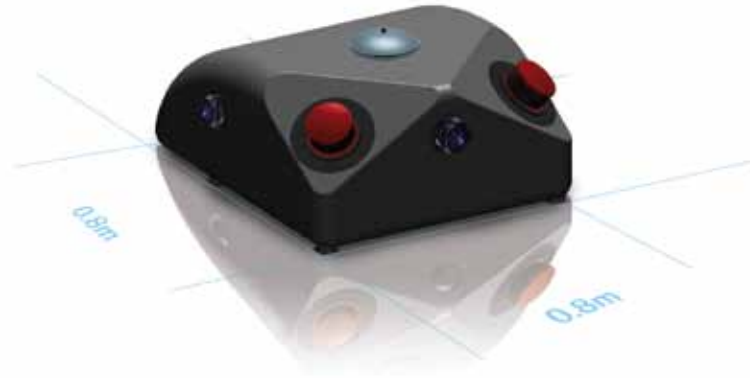


STREETMAPPER POD

StreetMapper Pod

A newly launched StreetMapper Pod offers a more robust solution with improved protection from the elements. A specially designed compact case; measuring just 0.8m by 0.8m, can accommodate up to two scanners and three cameras providing excellent coverage and accuracy.

The Pod design affords improved water resistance (to International Protection Rating or IP65), improved resistance to dust ingress and better heat resistance with an operational range of -10 to +40 degrees Centigrade.





StreetMapper Portable

Utilising StreetMapper 360 technology StreetMapper Portable combines flexibility and ease of use with proven performance and accuracy.

StreetMapper Portable is small enough to check in as standard luggage at the airport and designed to be installed in a matter of minutes on virtually any vehicle making it ideal for rapid deployment to inhospitable or inaccessible environments.

Using the latest laser scanning technology to achieve sub centimetre accurate measurements at normal traffic speeds StreetMapper Portable is easy to use with a dedicated touch screen LCD display and mission control and route planning software.





StreetMapper in action

Road Maintenance

Sweden's highways have been mapped in 3D using the laser mapping technology as part of a project led by the global design, engineering and management consultancy, WSP. StreetMapper 360 has been used to capture highly detailed and accurate 3D models of more than 1,700 km of the road network to support upcoming rehabilitation projects as well as the design and layout of new roads by the Swedish Road Administration.

"StreetMapper 360 is an essential tool in our surveying portfolio. The system enabled the capture of sub-centimetre accurate measurements while travelling at normal traffic speeds. This gives an unparalleled speed of data capture, minimises disruption to other road users and reduces the risk of injury to survey personnel."

Ante Erixon, Technical Director of the Department of Geographic Information within WSP Civils, Sweden.

Highway Improvement

StreetMapper has also been used to survey a stretch of four-lane highway in the northern Netherlands without the need for road closures or other safety precautions. The millions of individual laser measurements were then used to prepare a highly detailed and accurate 3D model for use in the preparation of a new design and actual laying of the new road surface.

"The advantages of the StreetMapper 360 system over traditional survey techniques are obvious. Improved conditions for the survey team, reduced impact on other road users and perhaps more importantly cost. We estimate that by using StreetMapper on this project savings of up to 50% were achieved. When you also consider how accurate the system is it's use for highway projects should be mandatory."

Jolle Jelle de Vries, Managing Director of Geomaat, Netherlands.

Urban Mapping

StreetMapper has contributed to a futuristic mapping project in a pilot by Ordnance Survey to create an incredibly detailed and accurate 3D map of the English seaside resort of Bournemouth. Ordnance Survey (OS) captured every square metre of the town centre using a combination of land based laser scanning - including the StreetMapper 360, and aerial laser surveying. Created from 700 million individual laser point measurements, the 3D map could represent the future of mapping and illustrates how the work of the national mapping agency could change with the adoption of laser scanning technology.

"This combination of technology, including the contribution from StreetMapper, could change the way we map the country and also have a massive impact on things like personal navigation, tourism, the planning processes and town centre management as well as aiding architects and the emergency and security services."

Glen Hart, Head of Research at Ordnance Survey, UK.

Public Safety

StreetMapper was recently used as part of a project to assess, analyse and manage public safety and security ahead of the 11th National Games of the Peoples Republic of China also referred to by some as 'China's Olympics'. For the first time the Public Security Authorities used LiDAR Mapping and 3D Modelling Techniques to capture data and produce 3D models in support of scenario planning and incident simulation.

"Like any other tool in the surveyors toolbox there is a time and a place to use a particular tool and StreetMapper is no different. There are multiple benefits of using the StreetMapper system on the right project; safety to the survey crew and travelling public and the speed of data acquisition make the system a 'no brainer' on typical traditional survey projects."

Michael R. Frecks, Terramatrix, LLC President, USA.

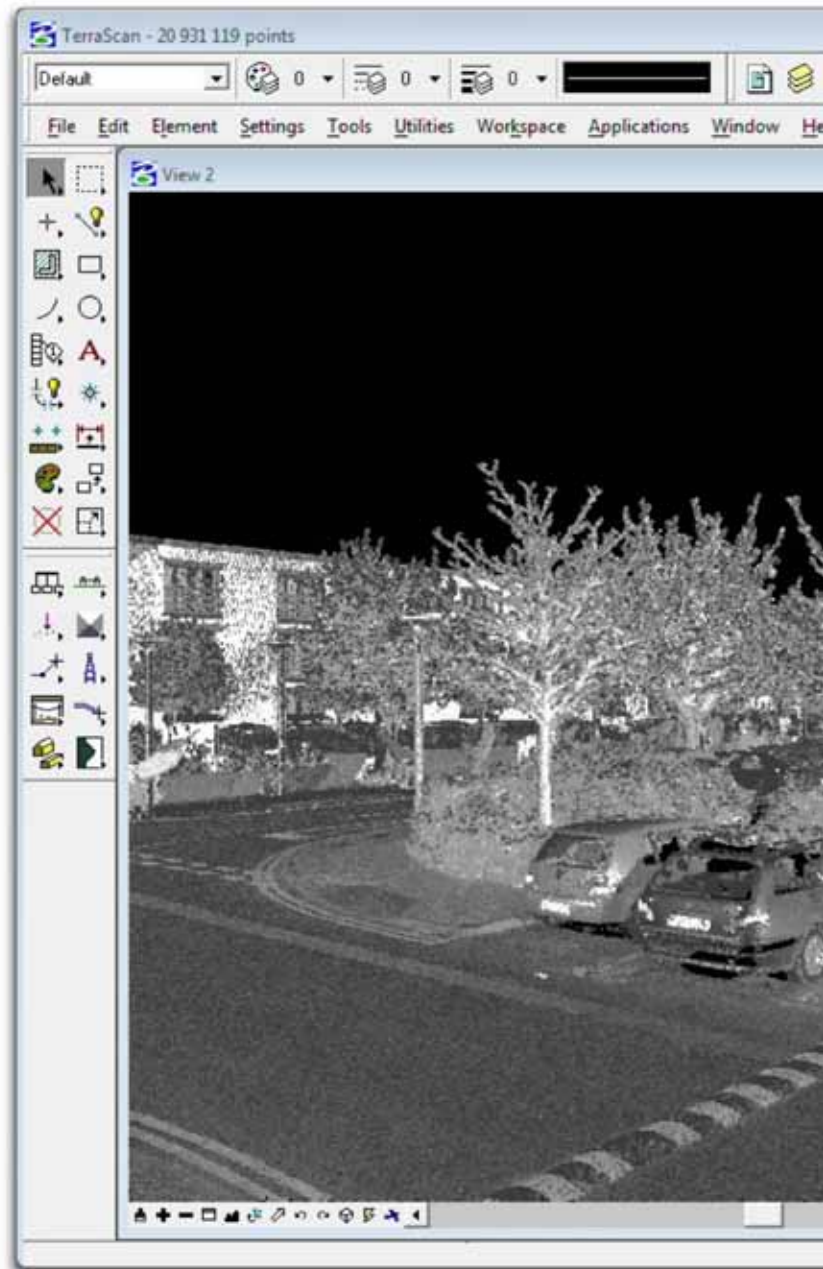
Processing Software

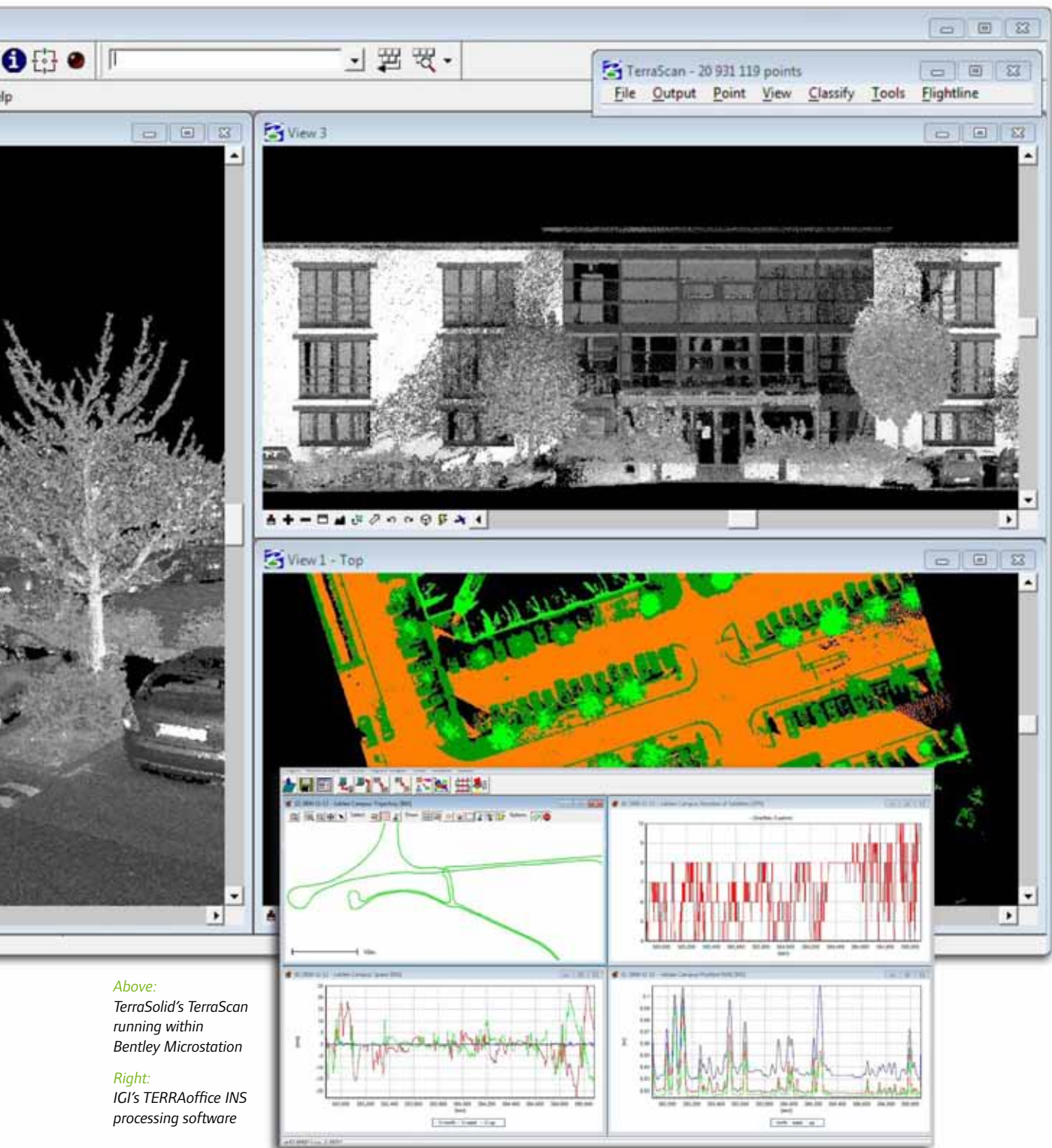
Highly advanced post-processing

The StreetMapper processing workflow has been honed over 5 years of continuous development by specialist graduate survey engineers. Fusing the data streams generated by StreetMapper with industry leading data processing software together with a unique knowledge base and experienced skill set to generate fit for purpose data products.

Data Products

Data products are key to maximising the value of a StreetMapper system. A wide range of tools are on offer for interoperability of software and data formats. In this way users of the StreetMapper system can make the best of their existing investments in software and training.





Above:
TerraSolid's TerraScan
running within
Bentley Microstation

Right:
IGI's TERRAoffice INS
processing software



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