SERVING AUSTRALIA SINCE 1984
GSR LASER TOOLS
GEODETIC SUPPLY & REPAIR

Professional Measurement

Laser Technology offers a wide range of laser-based products for professional field measurement applications from measuring a distance, height or elevation to verifying an azimuth direction or remote position with GPS.

Ref : General Utility Flyer

Utilities

From vegetation management to gas and pipeline distribution, the need to collect reliable spatial and meta data is a critical element for all the utility disciplines. The tedious task of collecting field data has historically been time consuming and costly. By utilizing the power of reflectorless measurement, your field crew will vastly decrease their field time and safety liabilities.

Laser Technology's TruPulse 360 not only has the ability to remotely measure distances, heights and azimuth, it offers a unique onboard solution that can calculate measurement values between any two remote points.

Having exceptional long-range capabilities makes our lasers able to lock on to the smallest of targets like power lines. Imagine measuring attachment heights, ground clearances or any other distance or span value without ever having to occupy rough and/or dangerous terrain or even private property for that matter.

The TruPulse 360 is a simple point-and-shoot laser that can literally fit within a vest pocket. It also easily integrates with a wide variety of field data collectors and industry relevant software, giving you a complete solution to collect and record accurate GIS data.

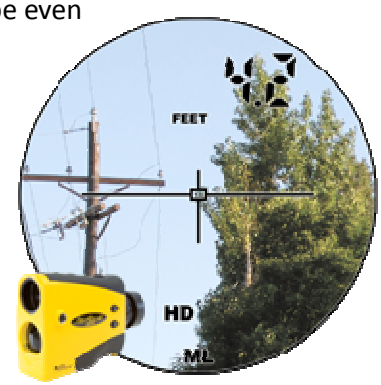
Alternative equipment or measurement methods are either too expensive, time consuming, or can become hazardous for your field crew if used in areas that are difficult to occupy.

So whether you handle the planning and research process or manage facility mapping, our technology can make your GIS projects a whole lot easier, cheaper, and safer.

Vegetation Management

Ensuring you have adequate vegetation clearance from power lines has always been important, but lately there seems to be more pressure on power companies to ensure they are in compliance. This is due to extensive property damage from fires or major power outages caused by trees hitting power lines. Historically, the process of just taking field measurements to simply identify danger trees has been expensive and extremely time consuming.

You could pay for flyovers but it can be expensive and the service may not be even available during the time of year that you need it. According to the final report issued by the U.S.-Canada Power System Outage Task Force, one of the main causes of the August 2003 blackout was the failure to adequately manage tree growth within a transmission line's right-of-way.



The report also suggests that "fly-overs do not allow effective identification of the distance between a tree and the line above it, and needs to be supplemented with ground patrols." If you need to rely on ground patrol, what do you use then? You can either use surveying equipment that is bulky and tedious, or a recreational rangefinder that isn't very reliable.

Meet THE vegetation management solution. With the revolutionary technology in the TruPulse 360, you decide exactly how and where you want to shoot from. Due to its superior optics and reflectorless capabilities, this unique laser rangefinder can obtain measurements aiming directly to the conductor. This shouldn't be taken for granted because not all lasers can recognize such a small target. It can fit inside a vest pocket and only requires 2 AA batteries, which makes this laser extremely field friendly.

There are a few easy measurement routines you can do that can verify the distance from a conductor to encroaching vegetation or determine if a tree has the potential to hit a conductor if it were to be knocked over – all without requiring additional software.

Recommended Routine 1: If you position yourself between the conductor's path and encroaching vegetation, you can use the built-in Missing Line (ML) routine. You can take your first shot to an encroaching branch and the second shot directly to the conductor. Scroll through the measurement results until you see the slope distance value seen as SD within the sighting scope.

Recommended Routine 2: Position yourself where you have a clear line of site to the base and top of the tree and the spot on the conductor that is perpendicular to a tree. Use the onboard 3-shot routine that measures the horizontal distance, as well as the top and base angle, to calculate the height of the tree. Remember or manually record this value. Toggle into Missing Line (ML) mode and reshoot the base of the tree for your first shot and the area on the conductor that is perpendicular to the tree for the second. Scroll through the measurement results until you see the slope distance value seen as SD within the sighting scope. If the SD value is less than the tree height, you have just identified a danger tree.

Pole Audits

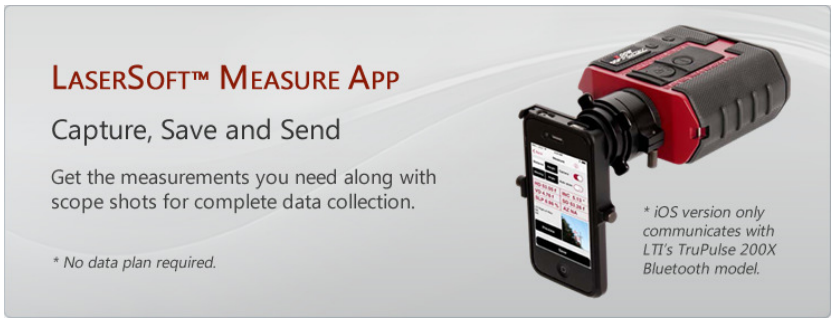
Pole audits have to be conducted by field workers periodically to check everything associated to a utility pole including sagging wires, attachments to the pole, how high up the attachments are, and if there is any vegetation or any other possible dangers close to the poles and wires. All Laser Technology's laser rangefinders can acquire measurements directly to attachment points and anywhere along the lines, making it the most efficient and safest measurement solution available for pole audits.

LTI's TruPulse laser rangefinders allow you to not only measure attachment heights, simple sags, mid-span clearances and spans between poles; they give you the ability to take the needed measurements from a less-dangerous location ensuring the safety of your workers, all while producing highly accurate and repeatable results.

Combine the TruPulse with LTI's *LaserSoft Measure App and capture*, save and send measurements with scope shot pictures embedded right into the file. No need for paper or pencil to record the field data - it can now be done easily and affordably with these tools and a smartphone.

If you need more in-depth data that includes geotagged photos with GPS location and custom form fields, GeoSpatial Expert's GeoJot+ App takes pole audits to a whole new level. Learn more about the GeoJot+ application and how LTI's laser rangefinders integrate with it to measure, collect and report field data quickly and effectively.

Laser Technology's laser rangefinders and other laser measurement tools streamline and simplify the process - what used to take multiple people, now only takes one person in one location - allowing professionals to take the necessary measurements for pole audits in a timely, cost-effective and safe manner.

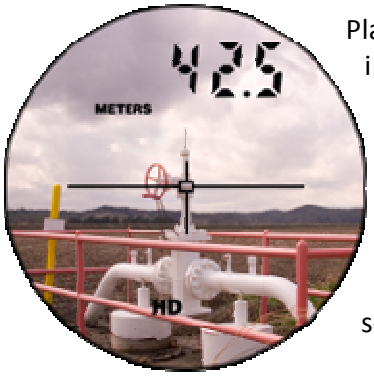


Pipeline

Asset and facilities mapping in the pipeline industry is a critical element when faced with a major GIS project. By utilizing the power of long-range, reflectorless measurement you can eliminate the pain and hassle of getting down into a trench or obtaining permission from a landowner just to get a few measurements. LTI's rangefinders are a perfect solution for typical obstacles you are faced with in the field.

Risk management can now obtain crucial positioning data faster and safer than ever before by integrating our lasers with GPS and performing laser offsets. Occupying dangerous or hard-to-reach areas is a thing of the past, because all you need is the raw values of inclination, slope distance and azimuth. This information, in conjunction with your GPS location, will provide a remote coordinate of any and all features in the field.

Offsets can aid in accurately positioning areas where repair or inspection work is taking place. You can also tackle the daunting task of identifying and mapping sensitive areas surrounding your construction zone or existing work areas.



Planning for energy networks can now be more efficient because field information can be collected and analysed quicker and easier.

Other utility professions such as water and gas can also benefit from collecting field data enabling managers to make better decisions.

All of our lasers offer data ports and some even have Bluetooth® so you can easily integrate with popular data collection software, making it a seamless process in the field.

Map Smart Field Mapping Software

For further information please call or email

Key Features

Ruggedized data collector included
Choose from several mapping methods
Calculate Area and Traverse Closure
Generate output file for download to PC

Software and data collector solution including MapSmart Software (WM compatible survey data collection program) and a ruggedized Recon data collector. Solution includes: MapSmart software installation CD & manual and Recon data collector with charger, manual and supporting software CD.

Transmission & Distribution Measurement Solutions

Reflectorless laser technology is ideal for transmission and distribution applications such as sag profiling, measuring the heights of attachment points or a conductor from the ground, verifying vegetation clearances and determining the location for your guy wire. Imagine one person standing in a safe location and measuring all those distance, height and clearance values you need to make critical decisions.

Just point at your target and shoot – it's that easy. The on-board solutions for horizontal distance, height and missing line (which is the distance between two remote points) can all be measured, calculated and displayed instantly.

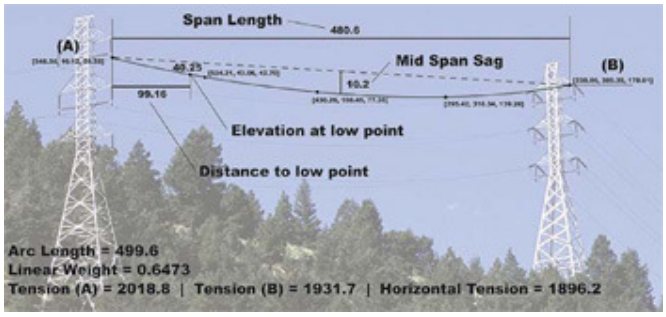
LTI's superior optics give you the ability to measure directly to a conductor, saving you so much field time by not handling a height stick or a placing a reflector on the wire.

Creating a digital database of assets and facilities can assist in quality management planning and can be useful in sharing information with local industries. GPS can be effective in locating and mapping certain features such as towers and poles but it takes a lot of time to occupy every asset. Increase your field productivity by integrating GPS with our lasers and perform laser offsets. This geo-referenced data can be imported directly into your existing GIS database.

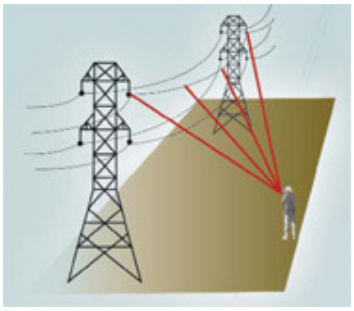
Alternatively, if all you have are historical paper maps, you can effectively verify their quality and update them using our laser rangefinders.

TruPulse 200X laser + TruAngle
+ T&D Pro Software

Lasertechnologie's *T&D Pro field software* turns you into a one-person measuring crew. You can easily calculate sag and tension of multiple lines; implement good vegetation management by identifying potential danger trees along your right-of-way; and measure attachment heights, elevation changes and more. The software even provides step-by-step prompts to ensure the accuracy of your results.



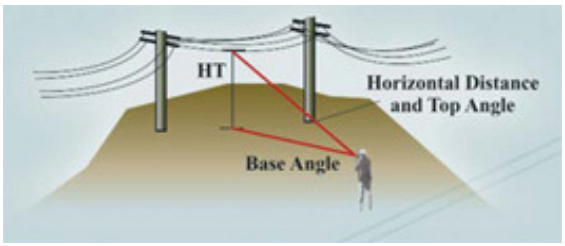
Sag Profile



Collecting measurements of an existing power line can help determine upgrade capacity and power efficiency. Critical measurements are also needed for accurate tensioning of newly constructed lines. Traditional survey methods are commonly used to collect these measurements; yet the field procedures can be inaccurate, inefficient, and even hazardous. For example, since reflectors cannot be placed directly on the wire, its location can only be estimated. Physically climbing a tower, placing equipment on a conductor, or extending a height stick to a wire can all be safety concerns. Utilize our laser's long-range capability and measure directly to the conductor.

Once the data has been measured and recorded, the values for span, sag and tension can be calculated instantly in the field.

Attachment / Conductor Heights



Increased voltage, ever-changing temperatures and wind conditions all contribute to a conductor's varying sag value. Safe clearance over roadways is just one of many areas that needs to be closely monitored. Verifying separation distances between services such as power, phone and cable are also critical to maintaining a quality system. The benefit of being able to shoot directly to a conductor or other features, can save you time and eliminate the use of fibreglass rods in dangerous areas. Our T&D Pro software offers four versatile routines for determining a conductor's height above ground or some other point of reference. Making certain assumptions about the work area will help you determine which routine will work best.

Public Works

From designing complex sewer/wastewater systems to just keeping the streets clean and properly managed, there is a demand for a more efficient GIS data collection process. Public Works professionals need to have current and up-to-date records of the location and condition of all their assets. Spatial and attribute information needs to be shared with other divisions, so the importance of collecting up-to-date information should be a high priority.

As in most professions, there is much to do and so little time to do it. You are most likely already using some data collection software to help manage everything you need to keep track of.

LTI lasers easily integrate with popular GPS equipment and data collectors through either a serial port or Bluetooth®. Performing GPS laser offsets can vastly increase your field efficiency because you can capture locations without physically occupying them. You can even measure and record attribute data such as heights or elevation values of particular features.

So if you need to manage tree inventory or simply track a repair or inspection location, the TruPulse is the tool for you. If you think about it, there is very little need for millimetre accuracy for a wide variety of applications. Total stations would be overkill and recreational rangefinders can only measure slope distance and really do not have an accuracy level you can truly rely on.

Our lasers are such an ideal measurement tool because they offer the best of all worlds – professional grade accuracy, small and lightweight packaging, and at a price point that will pay for itself with just one project

GIS & GPS Mapping Overview

Using GPS technology to collect field data is becoming almost standard practice nowadays. Using GPS laser offsets for mapping is typically only thought of when you need to collect data in hard to reach or inaccessible areas. Imagine how much easier all your fieldwork could be if you didn't have to occupy any location you needed to map GIS data.

You can realize such freedom by combining your GPS with the powerful TruPulse 360 laser rangefinder and use the built-in compass for all your remote GPS positioning. You can measure the slope distance, inclination and azimuth to anything and position any remote feature with just one shot. Easily add height or elevation data as an attribute and start collecting so much more field data in a lot less time. This is why our other motto is, "Map More. Move Less."

(Azimuth + Distance) + (GPS + GIS) = The Future of Positioning Technology.

Our groundbreaking technology lets you capture accurate compass data without inclination limitations. This unique laser can be pitched or rolled in any direction, and it will still measure the correct azimuth within one degree. No other all-in-one compass/laser can do this! Also, with its 7-power magnification and long-range capabilities, there is no target out of reach.

Because the size of our laser and its low price point, GPS laser offsets are not just for hard-to-reach locations, it's for mapping everything! Just considering the time savings alone, our reflectorless technology will pay for itself within your first GIS project.

All LTI laser rangefinders are compatible with ERSI's ArcPad, Trimble's TerraSync and other popular GPS handhelds and data collection software. Instantly download all your field data using the standard RS232 serial port or optional Bluetooth.

Mobil Solutions

LaserSoft™ Measure

Makes field measurements as easy as 1-2-3, stores scope shot images and files them any way you want.

- Makes data collection easy for non-GIS experts
- Stores 7x scope shot images and all laser data values
- Organizes files in categories and subcategories

GeoJot+

Geotags photos, auto-accepts remote laser positions and heights, and sends all collected data in real time via the cloud.

- Runs on most mobile devices (iOS and Android)
- Generates reports and exports Shape files
- Easily transfers licenses between devices

LaserGIS® for ArcPad®

Enhances laser mapping in ArcPad with quicker configurations, fewer steps and more automated attribute data input.

- Auto-accepts heights and other attribute data
- Maps multiple targets without touching the software
- Adds traverse and area calculations

For more information please call or send as an email

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